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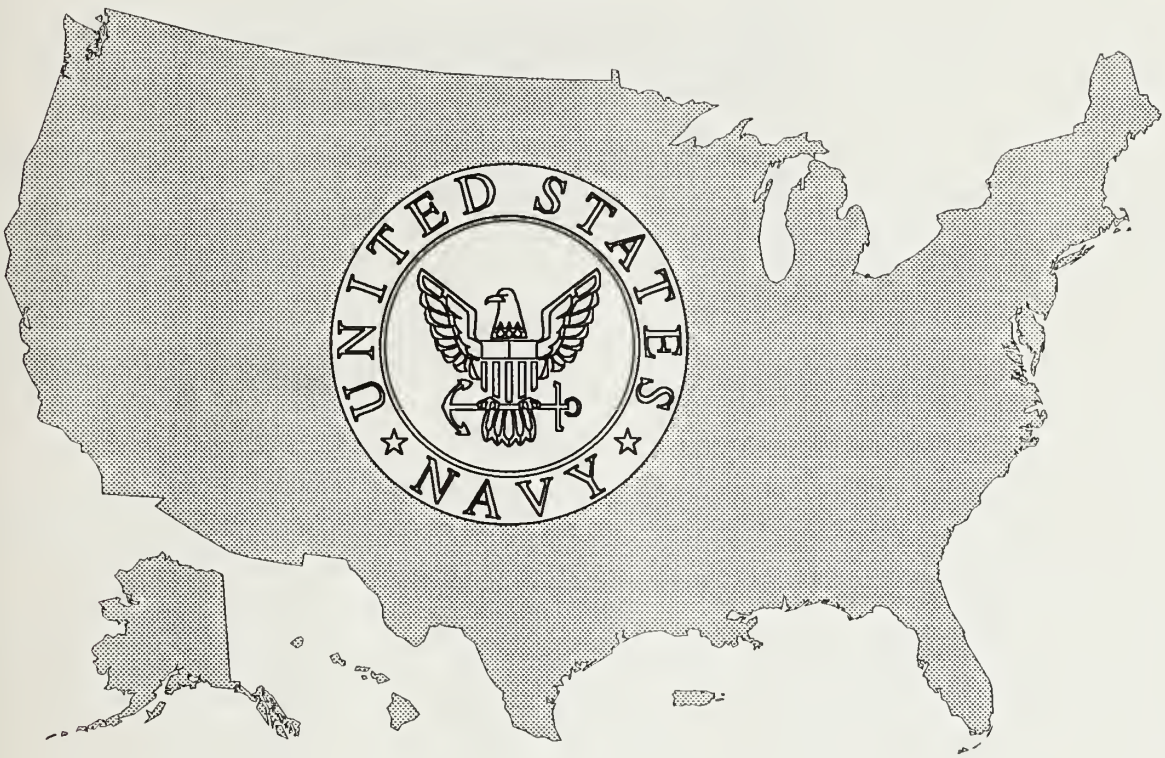
FACILITY RESPONSE PLAN



40 CFR 112	(EPA Non-Transportation Related)
33 CFR 150,154	(Coast Guard Marine Transportation Related)
49 CFR 194	(RSPA Pipelines)
49 CFR 171	(RSPA Tank Trucks/Cars)

FACILITY RESPONSE PLAN

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Texas A&M University
Environmental Engineering

06 Oct 93

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EXECUTIVE SUMMARY

The Oil Pollution Act of 1990 (OPA 90) strengthened and increased the requirements on ships and facilities handling, storing, and transporting oil. One of those requirements is the preparation of Facility Response Plans (FRPs) by ships or facilities which meet specific operating capacities. The Facility Response Plan is intended to be an all-inclusive guide for responding to and cleaning up any size spill, including a facilitys's or ship's "worst case discharge."

Although Navy ships are exempt from preparing FRPs, Navy facilities are required to submit plans. The requirements for the FRPs were expanded and clarified in four separate regulations which address different types of facilities. Since most Navy facilities are affected by at least one set of FRP regulations, a comprehensive guidebook detailing all of the requirements streamlines preparation of a facility's FRP.

The Naval Energy and Environmental Support Activity (NEESA) contracted with Dr. Roy Hann, Jr. through Texas A & M University to prepare this guidebook. Dr. Hann prepared introductory material and clarifying technical information which will be added to the Navy document as a preface and appendices, respectively. The guidebook which follows was prepared as a joint effort between LT Kelly McCarthy and LT Irene Addison. Coordination and editing efforts for the document were performed by both authors. The chapters written by LT McCarthy were 4, 5, 7, the pipeline response zone appendix, a cross-referencing matrix and a FRP checklist. The remaining chapters and appendices were prepared by LT Addison.

In addition to the written document, a FRP user's disk is provided. The disk provides a template FRP which sets the format for wording and tables. Screen comments provide short instructions to guide the user in writing their facility specific response plan. The disk is for use with Wordperfect 5.1, the word processing software most commonly used by U.S. Navy commands.

Navy submission requirements included a fully justified document in Courier 12 pitch.

This document is currently under review by NEESA. The document will then be distributed Navy-wide for review and comments with subsequent distribution for use in preparing Facility Response Plans.

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CHAPTER 1. WHO MUST PREPARE A FRP?

1.1 INTRODUCTION. The Facility Response Plan (FRP) is a document which contains all of the information required to implement a response action for an accidental discharge of oil. The emphasis in the plan is placed upon response to the maximum extent practicable to a worst case discharge; however, the FRP should be workable for any size of discharge.

Prior to writing a Facility Response Plan, there are several actions that must be taken:

- Identify the operations which may require a Facility Response Plan;
- Determine if the facility must prepare a Facility Response Plan;
- Determine if the facility could be expected to cause "substantial harm" or "significant and substantial harm";
- Identify the boundaries of the "OPA facilities"; and
- Gather information required to prepare the Facility Response Plan.

1.2 REVIEW DEFINITIONS AND FACILITY OPERATIONS AND LOCATION. There are several types of facilities which are regulated under the Oil Pollution Act of 1990 (OPA 90)--non-transportation-related facilities (NTR), marine transfer facilities (MTR), pipelines, and tank or rail cars. Definitions of these facilities are addressed in Section 1-3. To begin the review process, apply the following general questions to your facility.

Does the facility store, handles, or transport any quantity of oil?

You must first determine if any of the facility's operations are subject to OPA 90. OPA 90 applies to the storage, handling, or transportation of oil in certain quantities. Throughout this guidance the term, "oil", will be used to refer to any fluid which would cause an oily sheen on water. This would include oil of any kind or any form including fuel oil, gasoline, sludge, oil refuse and oil mixed with wastes. It includes both petroleum-based and non-petroleum-based oils such as vegetable and animal oils. If the oil contains hazardous material it is regulated under RCRA.

Is the facility near navigable water?

Another term which is used throughout the law and regulations is "navigable water." Navigable water is loosely defined as anything that supports the flow of water. This includes obvious areas such as bays, lakes, and rivers. It also includes areas such as dry creek beds and ditches. Navigable water typically is only surface water; however, if oil reaches groundwater and is transported to surface water, these regulations apply. A facility should not discount regulation applicability based only on its distance from a significant body of water. If there are any questions whether an area would be considered navigable water, contact the appropriate regional agency (Environmental Protection Agency (EPA) or Coast Guard (USCG)) for their interpretation and clarification.

Is the facility near an environmentally sensitive area?

One of the criterium which you will be asked to evaluate is the facility's distance to environmentally sensitive areas (ESAs). ESAs are areas of particular environmental importance such as wetlands, national and state parks, critical habitats for endangered/threatened species, wilderness and natural areas, marine sanctuaries, conservation areas, preserves, wildlife areas, scenic and wild rivers, seashore and lakeshore recreational areas, and critical biological resource areas. Chapter 4, section 4.1 and appendix D provides more information

about ESAs. The public works engineering division or the appropriate EPA or Coast Guard office can assist you in identifying ESAs. Area Contingency Plans (ACPs) identify ESAs in your area. ACPs are action plans prepared by the EPA or Coast Guard to coordinate the entire oil spill community in responding to a spill in their given jurisdictional area.

1.3 IS A FACILITY RESPONSE PLAN REQUIRED? Four sets of regulations covering different oil handling operations have been issued by the Environmental Protection Agency (EPA), the U.S. Coast Guard (USCG), and Research and Special Programs, Department of Transportation (RSPA-DOT). Each agency sets criteria used to determine if a FRP must be prepared and submitted. The following flowcharts will assist you in determining whether a Facility Response Plan is required. Each flowchart is followed by specific instructions for proceeding through the questions on the chart. The flowchart will specify whether submission of a FRP to the regulating agency is required for each category of facility. The same Facility Response Plan may be submitted to each applicable agency.

In addition to determining if a FRP is required, you will evaluate whether your facility could reasonably be expected to cause "substantial harm" or "significant and substantial harm." These designations are generally based on the amount of oil which could potentially be discharged and the distance to high risk areas. Both designations require submission of a Facility Response Plan. If your facility is designated as "significant and substantial," then the plan must be approved by the appropriate agency and certification that the facility is in compliance with the FRP is required. If the facility is designated as "substantial harm," the plan is still submitted but does not require approval. The enforcing agencies reserve the right to change your self-evaluated designation of the facility. Agencies may also require an FRP from a facility which was not required to submit according to the self-evaluation. Chapter 11 provides guidance on submitting FRPs.

Note that the number of facilities required to submit a Facility Response Plan is a subset of those required to maintain a Spill Prevention Control and Countermeasures (SPCC) Plan. Refer to 40 CFR 112.3 for the specific requirements for submitting a SPCC Plan.

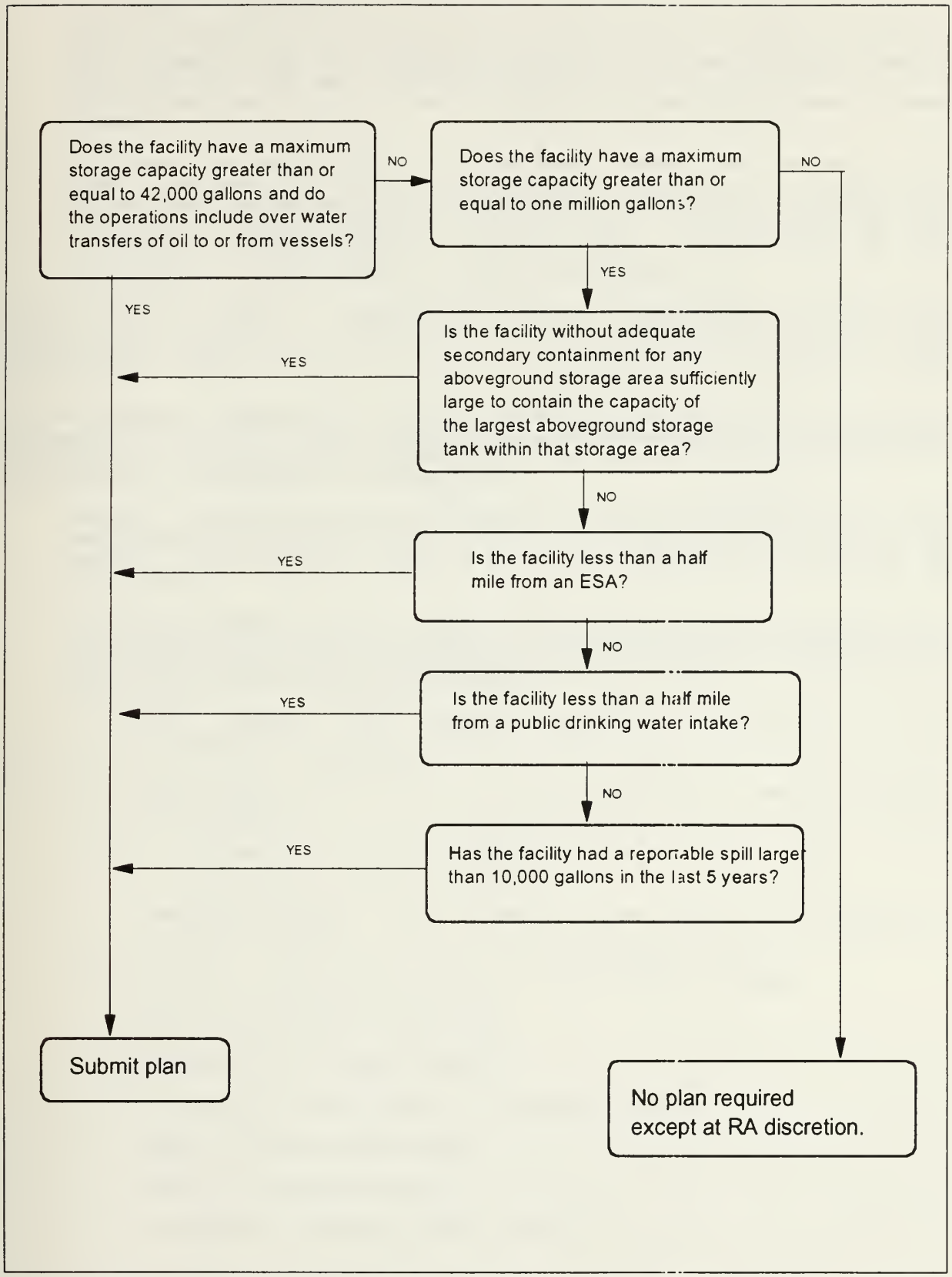
1.3.1 Non-Transportation-Related Facilities. Non-transportation-related (NTR) facilities are primarily storage facilities and associated appurtenances and are regulated by EPA. Figure 1-1 will help you determine if your non-transportation-related facilities could reasonably be expected to cause "substantial harm." Upon receipt of your self-evaluation, EPA will determine if the facility should be designated as "significant and substantial harm."

Tank Storage Capacity. When calculating the storage capacity of tanks, consider the total storage capacity of the tanks rather than the amount of oil which is actually stored.

Adequate Secondary Containment. Adequate secondary containment can be met in a number of ways. They might take the form of:

- Berms, dikes, or retaining walls;
- Curbing;
- Culverting, gutters, or other drainage systems;
- Weirs, booms, or other barriers;
- Spill diversion ponds;
- Retention ponds; or

Figure 1-1


Does the facility have a maximum storage capacity greater than or equal to 42,000 gallons and do the operations include over water transfers of oil to or from vessels?
NO
Does the facility have a maximum storage capacity greater than or equal to one million gallons?
NO
YES
YES
Is the facility without adequate secondary containment for any aboveground storage area sufficiently large to contain the capacity of the largest aboveground storage tank within that storage area?
YES
NO
Is the facility less than a half mile from an ESA?
YES
NO
Is the facility less than a half mile from a public drinking water intake?
YES
NO
Has the facility had a reportable spill larger than 10,000 gallons in the last 5 years?
YES
Submit plan
No plan required except at RA discretion.

FRP Requirement for Non-Transportation Related Facilities (regulated by EPA)

- Sorbent material.

Adequate secondary containment must be able to hold the entire contents of the largest single tank plus have sufficient freeboard to allow for precipitation and must be impervious to oil for 72 hours and be constructed such that no oil will escape to surface waters before cleanup occurs.

Distance to an ESA or public drinking water intake. As a general rule of thumb, the term "close" can be interpreted to mean within 1/2 mile of the ESA or public drinking water intake or within 1/2 mile of a storm drain or concrete channel which would flow to the site. If the distance is close or further interpretation is required, refer to Chapter 4 for more information on calculating the planning distances.

If your facility does not meet the substantial harm criteria, complete the certification included as attachment 1-A and maintain a copy of this certification in your SPCC plan. A copy of this certification is also contained on the user's disk.

The EPA Regional Administrator (RA) will determine whether your facility could reasonably be expected to cause "significant and substantial harm." The Regional Administrator will apply three screens to determine if the facility should be designated as "significant and substantial."

Screen 1 involves over-water transfers. If the facility conducts over-water transfers and has a total oil storage capacity greater than 42,000 gallons (1,000 barrels), the facility is considered "significant and substantial."

Screen 2 reviews the same factors which were used to determine the requirements for a FRP. The facility is "significant and substantial" if the facility has a storage capacity greater than 1 million gallons and at least two of the following are true:

- The facility lacks adequate secondary containment for any aboveground storage area.
- A discharge from the facility would shut down a public drinking-water intake.
- A discharge from the facility could cause injury to an environmentally sensitive area.
- The facility has a spill exceeding 10,000 gallons (238 barrels) in the past 5 years.

In the Screen 3, the RA will evaluate the following factors:

- Lack of secondary containment;
- Proximity to navigable waters;
- Proximity to environmentally sensitive areas;
- Type of transfer operation;
- Total oil storage capacity;
- Proximity to drinking water intakes;

- Proximity to other environmental areas of concern;
- Spill history;
- Tank age; and
- Other site specific or environmental factors including local impacts of public health.

The RA will notify you if the facility is designated "significant and substantial harm."

1.3.2 Marine-Transportation-Related Facilities. Marine-transportation-related (MTR) facilities include deepwater ports and onshore facilities which are used or intended to be used for transferring oil to and from a vessel. MTR facilities are regulated by the U.S. Coast Guard. The MTR portion of the facility complex includes all piping and structures used for transferring oil located between the vessel and the first valve inside the secondary containment of the non-transportation related storage tanks. It also might include mobile MTR facilities such as tank trucks and rail cars which transfer fuel directly to or from vessels. The determination of harm level and the requirement to submit a Facility Response Plan is shown on the flowchart in Figure 1-2. Unlike the EPA, the determination of significant and substantial harm is made by self-evaluation.

Deepwater Port. If the facility includes a deepwater port, it automatically fulfills the significant and substantial harm criteria. A deepwater port is a structure or structures located beyond the territorial sea and off the coast of the United States which is used for transferring oil for transportation into the United States.

Oil Transfers. Consider all oil transfers either to or from a vessel.

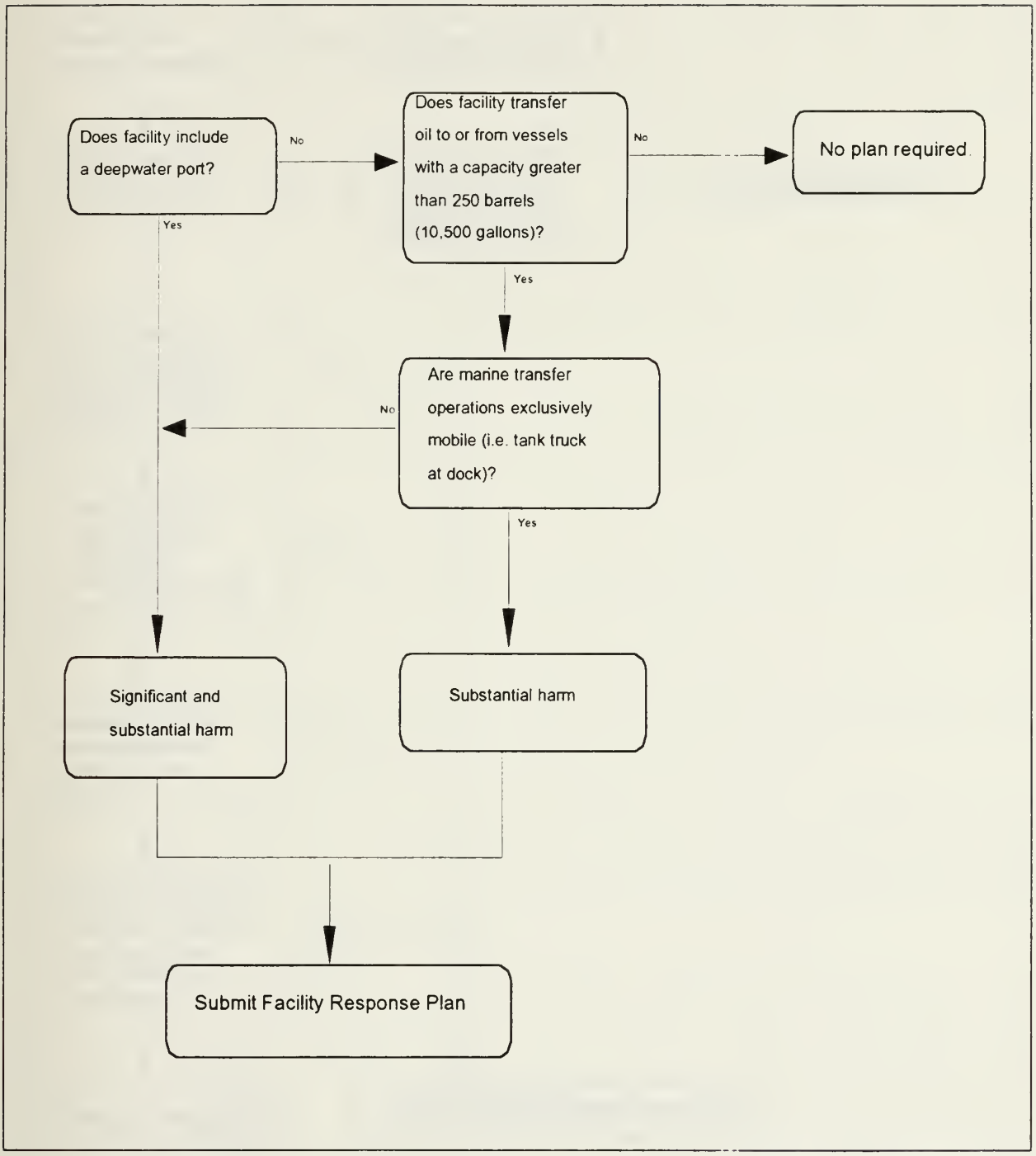
Mobile Transfer Operations. Mobile facilities would include tank trucks and railroad tank cars. If all oil transfer operations are between a vessel and a tank car or railroad tank car, the facility is not designated as significant and substantial harm.

Like the EPA, the Coast Guard reserves the right to upgrade the level of harm which the facility may reasonably be expected to cause. Some of the factors which may be considered in upgrading a facility include:

- Type and quantity of oil handled in bulk;
- Facility spill history;
- Age of facility;
- Proximity to public and commercial water supply intakes;
- Proximity to navigable waters; and
- Proximity to areas of economic importance or environmental sensitivity.

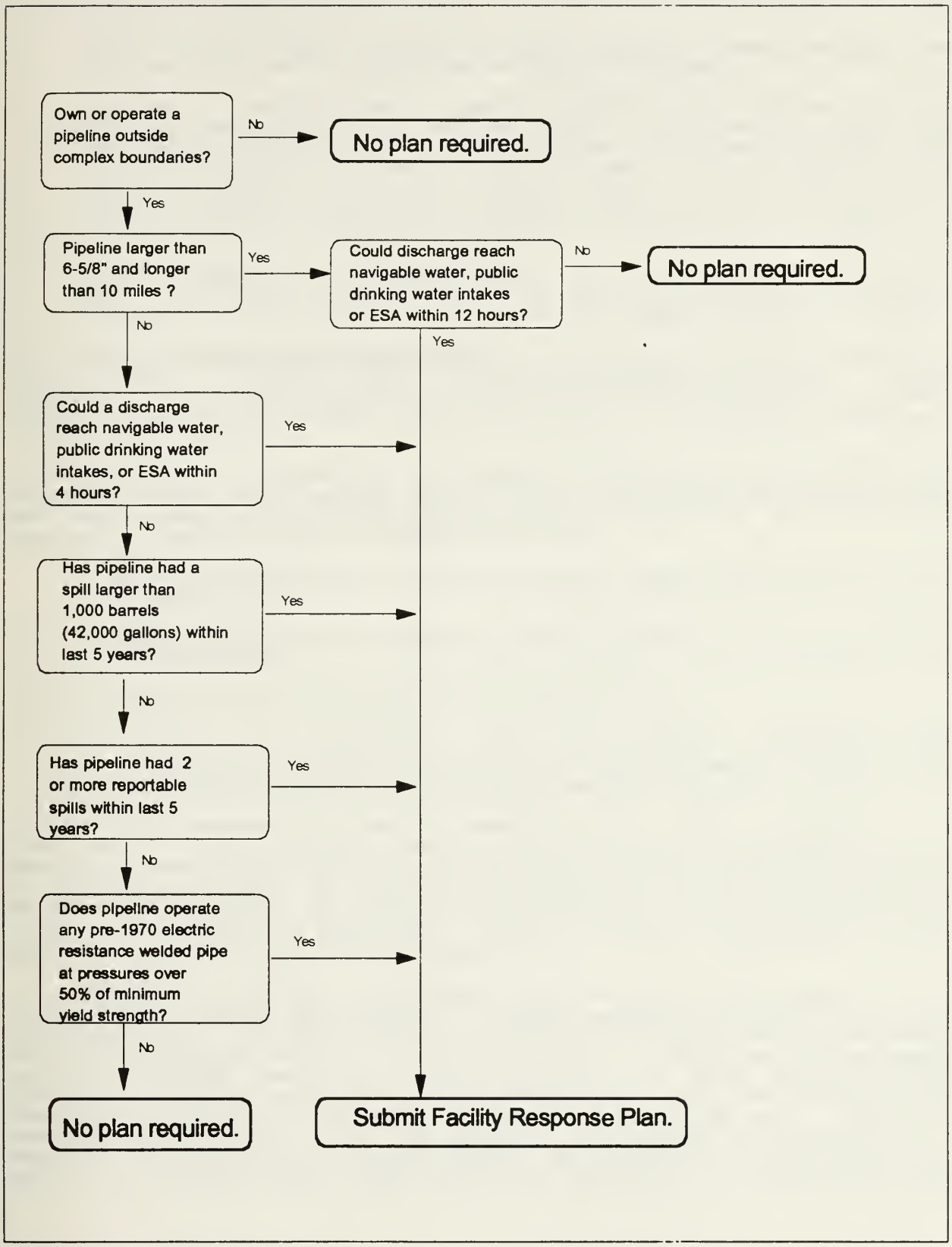
1.3.3 Pipeline. In this category consider only pipelines which are located **outside** of the facility boundaries. If the pipeline outside the facility boundaries contain breakout tanks which are in-line only with the pipeline and cannot be pumped off in any other manner, those breakout tanks are considered to be part of the pipeline system. A breakout tank is used to compensate for pressure surges or to control and maintain the flow of oil through pipelines. These pipeline facilities are regulated by RSPA-DOT. The flowchart identifies if a Facility Response Plan is required. Refer to appendix C to identify the level of harm. This category does not apply to any pipelines which are located

Figure 1-2


Does facility include a deepwater port?
No
Does facility transfer oil to or from vessels with a capacity greater than 250 barrels (10,500 gallons)?
No
No plan required
Yes
Yes
Are marine transfer operations exclusively mobile (i.e. tank truck at dock)?
No
Yes
Significant and substantial harm
Substantial harm
Submit Facility Response Plan

FRP Requirements for Marine-Transportation-Related Facilities (regulated by U.S. Coast Guard)

Figure 1-3


Own or operate a pipeline outside complex boundaries?
No
No plan required.
Yes
Pipeline larger than 6-5/8" and longer than 10 miles ?
Yes
Could discharge reach navigable water, public drinking water intakes or ESA within 12 hours?
No
No plan required.
No
Yes
Could a discharge reach navigable water, public drinking water intakes, or ESA within 4 hours?
Yes
No
Has pipeline had a spill larger than 1,000 barrels (42,000 gallons) within last 5 years?
Yes
No
Has pipeline had 2 or more reportable spills within last 5 years?
Yes
No
Does pipeline operate any pre-1970 electric resistance welded pipe at pressures over 50% of minimum yield strength?
Yes
No
No plan required.
Submit Facility Response Plan.

FRP Requirement for Pipeline Facilities (regulated by RSPA)

inside the fenced boundaries of the facility. Pipelines inside facility fencelines are regulated under the non-transportation-related or marine-transportation facility plans.

Pipe size and length. The pipe size and length is based upon only that pipeline which is outside of the facility boundaries.

Distance to navigable water, public drinking water intakes, or ESAs. RSPA-DOT does not currently provide specific guidelines for calculating the distance traveled in a specific time. The EPA guidelines for calculating distances, Chapter 4, can be used. If you believe that a Facility Response Plan is not required based solely on the distance calculations, it is suggested that clear documentation be submitted to RSPA-DOT for their review and comments.

Pipeline Spills. The pipeline spills include any spills from breakout tanks. Note that reportable spills are any spills that cause a sheen on water or potentially cause damage to an environmentally sensitive area.

1.3.4 Bulk Packagings for Shipment of Oil. Bulk packaging includes tank trucks, railroad cars, and portable tanks. They are regulated by RSPA-DOT. You are required to submit a Facility Response Plan for bulk packaging only if the bulk packaging has a capacity greater than 42,000 gallons (1,000 barrels) and only if it stores petroleum oil.

If the facility owns or operates bulk packaging including tank cars, rail cars, or portable tanks with a capacity greater than 3,500 gallons (83.3 barrels) but less than 42,000 gallons (1,000 barrels) for petroleum oil, the facility is required to prepare a "basic" response plan that:

- Sets forth the manner of response to discharges that may occur during transportation;
- Takes into account the maximum potential discharge of the contents from the packaging;
- Identifies who will respond to a discharge; and
- Identifies the appropriate persons and agencies (including their telephone numbers) to be contacted in regard to such a discharge and its handling, including the National Response Center.

If a Facility Response Plan must be submitted to EPA, USCG, or RSPA-DOT (For pipelines), it will meet the above requirements for bulk packaging with a capacity between 3,500 and 42,000 gallons. If a response plan is required only for tank cars, rail cars, or portable tanks, prepare a "basic" plan which meets the above requirements. The "Oil Spill Response Concepts" section will provide background information to assist you. The "basic" plan is not submitted to any agencies; it is maintained at the complex.

1.4 DEFINE OPA FACILITY. Depending upon the size and mission of the installation, it may be advantageous to define a portion of the facility as the "OPA Facility." The "OPA Facility" is the portion of installation which specifically handles, stores, or transports oil. It would not include every individual building fuel oil tank. It would be those areas with a specific mission of handling, storing, or transporting oil. The "OPA Facility must include the pier areas if over the water transfers of oil are made. Defining a subset of the facility as the "OPA Facility" is advantageous particularly if storing or handling oil is a small portion of the facility mission and there would be a large area which would have to be included in a host installation plan.

More than one "OPA Facility" may be designated if the oil handling, storage, and transportation functions are separated by a significant distance. If more than one "OPA Facility" is designated, an "OPA Facility" form for each separate facility must be prepared in Chapter 2. Also, if response actions will vary significantly due to distance, specific location features, or missions of "OPA Facilities," other sections may need to be completed for <u>each</u> "OPA Facility."

Special consideration must be given to pipelines outside of the facility complex. If you determined that a Facility Response Plan is required for any pipelines outside of the base complex (Section 1.3.3), that pipeline will also be included in the definition of the "OPA Facility."

1.5 GATHER INFORMATION. Once you have established whether your facility is required to prepare and submit a Facility Response Plan, you must not compile the information needed to prepare the Facility Response Plan. Each chapter will describe the facility-specific information that is required. Some of the general information which should be available include:

- National Contingency Plan (NCP);
- Area Contingency Plan (ACP);
- NOSC regional plan;
- Local emergency response plan maintained by the Local Emergency Planning Committee (LEPC) and required by the Superfund Amendments and Reauthorization Act of 1986 (SARA);
- Current facility SPCC Plan; and
- Current facility Oil and Hazardous Material Spill Response Plan.

The current regulations require that the Facility Response Plan be compatible with the current National Contingency Plan (NCP) and the Area Contingency Plan (ACP). The NCP is a general plan which provides the general organization structure and procedures to implement an oil spill response action and is published as 40 CFR part 300. ACPs will address discharges affecting all navigable waters and adjoining shorelines. ACPs are prepared by the EPA and the Coast Guard for their jurisdictional areas. The Coast Guard's jurisdiction for oil spill response is essentially the coastal waters and the EPA's jurisdiction is essentially inland waters. You should request ACPs from EPA and/or Coast Guard depending upon the navigable water which your facility may affect.

Attachment 1-A

Certification of Substantial Harm Determination
Non-Transportation-Related Facilities

Facility Name:

Facility Address:

---

1. Does the facility have a maximum storage capacity greater than or equal to 42,000 gallons (1,000 barrels) and do the operations include over water transfers of oil to or from vessels?

Yes _____ No _____

2. Does the facility have a maximum storage capacity greater than or equal to one million gallons and is the facility without secondary containment for any aboveground storage area sufficiently large to contain the capacity of the largest aboveground storage tank within the storage area?

Yes _____ No _____

3. Does the facility have a maximum storage capacity greater than or equal to one million gallons and is the facility located at a distance such that a discharge from the facility could cause injury to an environmentally sensitive area?

Yes _____ No _____

4. Does the facility have a maximum storage capacity greater than or equal to one million gallons and is the facility located at a distance such that a discharge from the facility would shut down a public drinking water intake?

Yes _____ No _____

5. Does the facility have a maximum storage capacity greater than or equal to one million gallons and within the past 5 years, has the facility experienced a reportable spill in an amount greater than or equal to 10,000 gallons?

Yes _____ No _____

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Signature: _____

Name:

Title:

Date:

CHAPTER 2. FACILITY INFORMATION

2.1 INTRODUCTION. The Facility Information forms are standardized forms which provide an overview and description of past activities of the facility and identify the key "Qualified Individuals". The first form describes the "OPA Facility" while the second form describes the host installation, if different. Chapter 1, section 1.4 discusses defining the "OPA Facility". All facilities must complete these forms. Form templates are shown as attachments and are provided on the user's disk.

If the "OPA Facility" contains a pipeline outside the contiguous facility boundaries as discussed in Chapter 1, a response zone information form must be completed for each response zone. Guidelines are contained in appendix C.

2.2 OPA FACILITY FORM. This form provides information on the "OPA Facility" within the host installation. If more than one "OPA Facility" is defined within the host installation, the form must be copied and completed for each facility. Attachment 2-A is a sample "OPA Facility" form.

Facility Name and Address. Enter the "OPA Facility" name and the host installation name, if different. State both the physical street address (street name and number) and the facility mailing address (i.e., P.O. Box number) for the "OPA Facility". Include the following information in the address:

- City
- State
- Zip Code (full nine digits)
- County (parish in Louisiana; borough in Alaska)

Phone Numbers. List the following telephone numbers for the "OPA Facility":

- 24 hour telephone number
- daytime phone number
- FAX number

Latitude and Longitude Information. Enter the latitude and longitude of the facility main entrance expressed as degrees, minutes, and seconds. Sources of this information include public works engineering division, topographical maps (interpolation to identify seconds will be required), or GPS (global positioning satellite) equipment.

Location Description. Describe the facility location in a manner that could aid both a reviewer and a responder in locating the facility, such as, river mile or location from a known landmark that would appear on a map or chart.

"Qualified Individuals". The "Qualified Individual" and "Alternate Qualified Individual" are the individuals who have full authority to implement response actions. Details of the "Qualified Individuals" responsibilities and qualifications are discussed in section 3.6. The identification must include the individual's name, title, address, work phone number, work FAX number, 24-hour phone number, and a short description of response training attended.

Wellhead Protection Area Information. Indicate whether the facility is located in or drains into a wellhead protection area, as defined by the Safe Drinking Water Act of 1986. The wellhead protection area is defined as the surface and

subsurface area surrounding a water well or well field, supplying a public water system, through which contaminants are reasonably likely to move toward or reach the well or wellfield.

States and territories with approved wellhead protection programs (as of August 1992) are: Arkansas, Connecticut, Delaware, Illinois, Louisiana, Maine, Maryland, Massachusetts, Nevada, New Hampshire, New Mexico, New York, Oklahoma, Puerto Rico, Rhode Island, Texas, and Vermont.

Contact the appropriate state agency to determine if your facility is within or drains into a wellhead protection area.

Year Oil Storage Began. State the year that the facility first began to store oil.

SIC Code. Indicate the facility's Standard Industrial Classification (SIC) code. The SIC for National Security is 9711.

Current Operation. Provide a brief written description of the facility's current fuel handling, storage and transporting operations.

Dates and Types of Substantial Expansion. For each substantial expansion, list the date of expansion, the type of expansion, and a brief description. A substantial expansion would include any changes in the amount, type, or location of oil stored or handled.

2.3 OWNER/HOST INSTALLATION FORM. The Owner/Host Installation form provides the contact information for the host installation where the "OPA Facility(s)" are located. Attachment 2-B is a sample host installation form.

Owner/Operator. The owner/operator is the United States Navy. If the plan is being prepared for another branch of service, edit this block.

Host Installation Name and Address. Enter the host installation name. State both the physical street address (street name and number) and the installation mailing address (i.e., P.O. Box number) for the host installation. Include the following information in the address:

- City
- State
- Zip Code (full nine digits)
- County (parish in Louisiana; borough in Alaska)

List the following telephone numbers for the host installation:

- 24 hour telephone number
- daytime phone number
- FAX number

Attachment 2-A
OPA FACILITY FORM

OPA FACILITY			
FACILITY NAME			
HOST INSTALLATION (if different)			
ADDRESSES	MAILING		
	PHYSICAL (if different)		
COUNTY (Parish in LA; Borough in AK)			
PHONE NUMBERS	24-HR		
	DAY		
	FAX		
LATITUDE/LONGITUDE (main entrance, or elsewhere if noted)	LAT: North (°,′,″)		
	LONG: West (°,′,″)		
LOCATION DESCRIPTION (Describe facility location from river mile or known landmark to aid responder in locating facility)			
QUALIFIED INDIVIDUALS (primary and alternate)	NAME		
	TITLE		
	ADDRESS	same as host installation	same as host installation
	WORK PHONE		
	WORK FAX		
	24-HR PHONE		
	RESPONSE TRAINING ATTENDED		
WELLHEAD PROTECTION AREA (potentially affected) (applicable only for: AR, CT, DE, IL, LA, ME, MD, MA, NV, NH, NM, NY, OK, PR, RI, TX, VT)			
YEAR OIL STORAGE BEGAN			
SIC CODE (primary)		9711 (National Security)	
CURRENT OPERATION (brief description of what facility does):			
SUBSTANTIAL EXPANSIONS (brief chronology and description):			

Attachment 2-B
OWNER/HOST INSTALLATION FORM

OWNER / HOST INSTALLATION		
OWNER		U.S. Navy
HOST INSTALLATION		
ADDRESSES	MAILING	
	PHYSICAL (if different)	
COUNTY (Parish in LA; Borough in AK)		
PHONE NUMBERS	24-HR	
	DAY	
	FAX	

CHAPTER 3. EMERGENCY RESPONSE INFORMATION

3.1 INTRODUCTION. The Emergency Response section of the plan provides ready access to information required to provide an immediate response to an oil spill. This section details the notification procedures and identifies resources available for response actions. Much of the information prepared in this section is also included in the Emergency Response Action Plan which is discussed in Chapter 12.

The Emergency Response section includes the following information:

- Emergency notification procedures;
- Spill Response Notification form;
- Oil Spill message format;
- Emergency response team;
- Facility response equipment;
- Other Navy facility and government agency resources;
- Contractor/cooperative arrangements;
- Evacuation plans;
- Duties of the "Qualified Individuals"; and
- "Qualified Individuals" Letters of Designation.

The requirements of each component will be discussed in more detail in the ensuing sections. All forms are shown as attachments at the end of Chapter 3 and are contained on the user's disk.

If a mobile facility handles, stores, or transports oil in bulk in more than one USCG Captain of the Port (COTP) zone, the plan must identify the oil spill removal organization and spill management team in a geographic-specific appendix. Use the forms in this chapter to provide the response information for each USCG COTP zone.

If the "OPA Facility" includes a pipeline outside of the contiguous facility as discussed in Chapter 1, response organizations must be identified for each response zone. Refer to appendix C for guidance.

3.2 NOTIFICATION PROCEDURES. Per 40 CFR 110.6 discharge of oil in any harmful quantity into navigable water is prohibited and is considered a reportable spill. A harmful quantity is any amount of oil that either violates applicable water quality standards or causes a film, sheen, or discoloration on water or adjoining shorelines or causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shoreline.

The description of the notification procedures must include:

- Notification procedures to meet national, state, local, and facility requirements.
- Clear detail of the procedures to recall response personnel.
- Primary and secondary communication methods by which notifications can be made. This might include telephones as a primary method and radios or hand delivery of messages as a secondary means of communication.

In the event of any discharge of oil in a harmful quantity, immediately notify the National Response Center (NRC). Although the reporting requirements for spills which do not reach navigable water are not under as stringent, it is recommended that they still be reported to NRC if there is a possibility of oil reaching navigable water due to rain or other unforeseen situations. Notifying NRC meets the national notification requirements. NRC will notify the EPA or Coast Guard Federal OSC.

Attachment 3-A provides generic wording and is included on the user's disk for your modification.

3.2.1 Spill Response Notification Form. The notification form creates a checklist of information that should be provided to the National Response Center (NRC) and other response personnel. It also gathers the information required for the Oil Spill message. A blank copy of this form is included in the Facility Response Plan and is shown in attachment 3-B. Standard facility information will be inserted on the form prior to inclusion in plan.

The form is to be completed by the individual discovering the spill and should be as complete as possible. Individuals involved in oil handling and storage should be familiar with the information required by the form to facilitate spill notification in an emergency situation. All information on the form should be known at the time of notification or be in the process of being collected. Do not delay notification in order to collect all of the required information. Place copies of the notification form at all possible locations from which notification may be made.

3.2.2 Emergency Notification Phone List. The emergency notification phone list identifies and prioritizes the names and phone numbers of organizations and personnel that must be notified in the event of a discharge. Suggested notifications are included on the sample form. Add and prioritize notifications specific to the facility. Procedures must be developed to regularly update phone numbers. They should be verified, at a minimum, each time the plan is updated and each time a drill is conducted. A sample Emergency Notification form is included as attachment 3-C and on the user's disk.

3.2.3 Oil Spill Message. An Oil Spill message or NAVGRAM must be prepared for all spills which are reported to the NRC. The Spill Notification form gathers all of the information required for the Oil Spill message. Attachment 3-D shows the format for the Oil Spill Message. A blank message format is provided on the user's disk.

3.3 OIL SPILL RESPONSE RESOURCES. This section will provide lists of the resources, both personnel and equipment, which is required to respond to your worst case discharge. Calculating a facility's worst case discharge is described in Chapter 5. The following lists will be prepared:

- Facility equipment;
- Emergency response team;
- Facility personnel;
- Other Navy facility and governmental agency resources; and
- Contractor resources.

Facility equipment will be the first equipment used for spill response. The emergency response team is the group of personnel who will be immediately recalled for any spill beyond the cleanup capabilities of the spiller. Facility personnel is a list of all personnel who have received the training required to participate in an oil spill response. The list of other Navy facility and

governmental agency resources compiles all of the available equipment within acceptable response zones which could respond to an oil spill.

As discussed in "Oil Spill Response Plan Concepts," the Navy recognizes the ICS system for oil spill management. As you prepare the FRP, develop an ICS organizational structure for a small, medium, and worst case discharge. This management structure may be solely facility personnel or a combination of Navy and contractor personnel. The larger spills will involve the regional NOSC and associated staff. The assignments within the ICS system will depend on the level of expertise and experience of facility personnel. Contractor or cooperative personnel may also fill some of the positions of an ICS system. A Navy representative would normally retain the "Qualified Individual" designation. A facility representative would also provide the contracting authority. Contractors or cooperatives may bring technical expertise or experience which is not available within the Navy organization. Care must be taken to ensure that checks and balances are in place if a contractor is filling a role within the ICS management structure and performing field work.

The documents prepared in this chapter must demonstrate the facility's ability to respond to a "worst case discharge." You may also consider preparing separate resource lists for small and medium discharges to reflect the changes in the response structure for the smaller discharges.

Prior to completing the oil spill response resource forms, the required daily oil recovery rates must be calculated following the instructions in plan implementation, chapter 7, section 7.2. The recovery capability of facility equipment is then subtracted from this required amount to identify shortfalls. The shortfalls must be met through agreements with Navy or other governmental agencies, oil spill response cooperatives, and/or contractors.

3.3.1 Facility Equipment. The response plan includes the following information about equipment located at the facility:

- A description (year and model) of emergency response equipment;
- The quantity of equipment;
- The storage location of the equipment;
- The operational capability of the emergency response equipment;
- The date of the last equipment test or inspection; and
- The amount of release that emergency response equipment can handle.

The following equipment will be included on the facility equipment list:

- Skimmers/pumps (calculation of the effective daily recovery rate is discussed in chapter 7, section 7.2);
- Booms;
- Sorbents;
- Hand tools, include items used for spill cleanup such as shovels, rags, and rope;
- Communication equipment, include operating frequency and channel and/or cellular phone numbers for any equipment which would be used during oil spill cleanup;
- Fire fighting and personal protective equipment (PPE); and

- Other types of equipment used for oil spill response, such as heavy construction equipment, boats, and motors.

If a pipeline plan is being prepared, the following equipment must also be listed:

- Transfer hoses and connection equipment;
- Portable pumps and ancillary equipment; and
- Facilities to transport and receive oil.

This equipment list should include only that equipment which is available at the command. Refer to chapter 7, table 7-11 to ensure that the facility equipment meets the applicable criteria. Attachment 3-E is a sample Facility Equipment form.

3.3.2 Emergency Response Team. The Emergency Response Team is comprised of facility or outside personnel (referenced by job title/position and contractors) who will respond immediately upon discovery of an oil spill or other emergency. This would be the team who would respond to every accidental release that was beyond the cleanup capabilities of the spiller. A spiller is the party who actually discharges oil. Their cleanup capabilities would normally be limited to the use of absorbent materials to completely contain and remove the oil. The following information should be included for each member of the team:

- The person's name;
- Position;
- Response time from home, in minutes; and
- The person's phone numbers (both day and evening).

Attachment 3-F is a sample Emergency Response Team form.

3.3.3 Facility Response Personnel List. The Facility Response Personnel list includes all facility personnel who are trained to respond to oil spills. For each facility response person the following information is to be included:

- The person's name;
- Position;
- Day and 24-hour phone numbers;
- Response time, in minutes; and
- Responsibilities during an emergency.

A sample Facility Response Personnel list is provided at Attachment 3-G.

3.3.4 Other Navy and Government Agency Resources. Depending on the location of the facility, nearby Naval facilities or other government agencies, such as the Coast Guard, may be able to provide resources to respond to a worst case discharge. Prior to including other commands or government agencies as acceptable resources, a Memorandum of Understanding or Agreement (MOU/MOA) should be prepared. This agreement should resolve issues such as reimbursement and resources available. An interagency agreement between the Navy and the Coast Guard for cooperation in oil spill clean-up operations and salvage operations was signed in 1980 and is included as attachment 3-H. This national agreement does not eliminate the need for local MOUs.

SUPSALV has pre-staged oil spill response equipment and personnel at Stockton, CA, Williamsburg, VA, Pearl Harbor, HI, and other oversees locations. A list of their current resources is included as attachment 3-I. These resources could be recalled in the event of a spill. Only the NOSC is authorized to request response from SUPSALV.

Complete the Other Navy Facilities/Government Agency Resources form if agreements are reached with other facilities or agencies to utilize their resources and the response times meet the requirements. Provide a copy of the agreement with the other certifying documents from contractors. (Refer to Section 3.4)

The facility/agency form must include the following information:

- Facility or agency name;
- Point of contact to notify when assistance is required;
- 24-hour phone number for facility or agency;
- The response time (in hours) for the facility or agency to be on site with their resources (or a schedule of incremental response times); and
- The agreed responsibilities of the facility or agency (personnel and/or equipment).

A form to list Other Navy Facility and Government Agency resources is at attachment 3-J.

3.3.5 Emergency Response Contractors and Oil Spill Response Cooperatives. The facility undoubtedly does not have all of the resources to respond to a worst case discharge. Even with the assistance of other governmental resources, oil spill response contractors or cooperatives will probably still be a major portion of your response plan. To determine the required contractor/cooperative resources, subtract the total effective daily recovery rate for facility equipment and equipment from other Navy facilities or government agencies form the required daily recovery rate. The result is the recovery rate shortfall which must be met by contractors and/or oil spill cooperatives. Contracts must be prepared which bind the contractor to respond to the facility's oil spills, when requested. Resources from oil spill cooperatives are committed through written agreements between the facility and the cooperative. Membership in the cooperative may be a requirement to include their resources in the FRP.

Contact your regional Coast Guard office to determine if your facility can utilize local Coast Guard Basic Ordering Agreements (BOAs) with oil spill response contractors.

It is your responsibility to ensure that the contractor or cooperative has adequate personnel and equipment to provide the contracted recovery rate. When reviewing contractor qualifications, ensure that personnel are fully trained in response procedures and safety, including the use of the contractor's equipment. You should also consider personnel turnover.

The Emergency Response Contractors Form, attachment 3-K, lists all contractor and cooperative resources required to respond to a worst case discharge. The form includes the following items:

- The name of each response contractor or cooperative;
- The contractor's or cooperative's phone number, including a 24-hour phone number;
- The response time, in minutes; and

- Assigned responsibility per the contract or written agreement.

The Facility Response Plan must include evidence of contract agreements with response contractors if the command is planning to use contractor assistance for spill response. Section 3.4 provides details on certifying the available resources.

3.4 CERTIFYING AVAILABILITY OF RESPONSE RESOURCES. The availability of response resources must be certified by the following methods:

1) A written contractual agreement with an oil spill removal cooperative or contractor. The agreement must identify and ensure the availability of required personnel and equipment within stipulated response times;

2) Certification that required personnel and equipment are owned, operated, or under the direct control of the facility and are available within the stipulated response times;

3) Active membership in a local or regional oil spill removal cooperative that has identified required personnel and equipment that are available to respond within stipulated response times

4) A document which--

   a) Identifies the personnel, equipment, and services capable of being provided by the oil spill removal cooperative within stipulated response times in the specified geographical areas;

   b) Sets out the parties' acknowledgement that the oil spill removal cooperative intends to commit the resources in the event of a response;

   c) Permits the Coast Guard to verify the availability of the identified response resources through tests, inspections, and drills; and

   d) Is referenced in the Facility Response Plan.

5) The identification of an oil spill removal cooperative or contractor with specified equipment and personnel available within stipulated response times in specified geographic areas. The cooperative must provide written consent to being identified in the plan.

Attach copies of all contracts and agreements to the FRP following the Contractor/Cooperative Arrangement form.

Mobile MTR Exception. If the FRP is required <u>only</u> due to a mobile marine-transportation-related facility (substantial harm regulated by the Coast Guard), the facility is not required to provide copies of contracts. Requirements are met by maintaining a letter on file from an oil spill removal cooperative stating that they will respond to an average most probable and worst case discharge from the facility.

3.5 EVACUATION PLANS. The Facility Response Plan is required to include the following:

- A diagram of the facility indicating evacuation routes and destinations;

- A plan for the evacuation of the facility; and

- A plan and diagram for the evacuation of the surrounding community if the surrounding community is at high risk from a release.

The facility security and transportation departments should assist you in the preparation of facility evacuation plans. If a community evacuation plan is required, work with the local government and the local emergency planning committee (LEPC).

The *Handbook of Chemical Hazard Analysis Procedures* may provide guidelines useful in the preparation of the evacuation plans. It was prepared by EPA, DOT, and the Federal Emergency Management Agency (FEMA) and is available from:

FEMA
Publication Officer
500 C Street, SW.
Washington, DC 20472
(202) 646-3484

3.5.1 Facility Evacuation Diagram. An evacuation plan should be shown on a copy of the site plan diagram from chapter 9. For each "OPA Facility" mark:

- Primary evacuation routes;
- Alternative routes of evacuation;
- Evacuation regrouping areas; and
- Alternate evacuation regrouping areas.

In defining the above routes, consider each of the following and how they will affect your choice of evacuation route:

- Location of stored materials;
- Hazard imposed by spilled materials;
- Spill flow direction;
- Prevailing wind direction and speed;
- Water currents, tides, or wave conditions (if applicable);
- Arrival route of emergency response personnel and equipment;
- Transportation of injured personnel to nearest emergency medical facility;
- Location of alarm/notification systems;
- The need for a centralized check-in area for evacuation roll call;
- Selection of a mitigation command center; and
- Location of shelter at the facility as an option to evacuation.

Mark the chosen routes on the copy of the site plan diagram. Clearly distinguish between the primary and alternative routes.

3.5.2 Facility Evacuation Plan. Write a brief description of how the evacuation should take place based on the indicated evacuation routes. Include the following items:

- How the evacuation will be signaled (i.e., how the direction to evacuate will be promulgated);

- How personnel will know how to follow evacuation routes (i.e., training, posted maps; and
- How the evacuation should be carried out.

3.5.3 Community Evacuation Plan and Diagram. Provide a written explanation of whether you believe the surrounding community is at high risk from a discharge from the facility and why. Consider factors such as distance to community and residential property, the type of oil and its inherent hazards, and the proximity to the community's water supply. If there is a high risk, you should provide the following items:

- A written plan describing evacuation; and
- An evacuation diagram of the surrounding community.

The community plan and diagram should include the same elements and considerations as the facility plan and diagram. Consult the local emergency response authorities for information on their community evacuation plans.

3.6 QUALIFIED INDIVIDUALS' DUTIES. The "Qualified Individual" has full responsibility to implement response actions. The EPA refers to this person as the emergency response coordinator. Since Coast Guard and RSPA-DOT both designate that person as the "Qualified Individual" that term is used exclusively throughout the guidance. An "Alternate Qualified Individual" must also be designated to implement the response plan if the primary "Qualified Individual" is unavailable.

The primary and alternate "Qualified Individual" must:

1) Speak fluent English;
2) Be available on a 24-hour basis and be able to arrive at the facility in a reasonable time;
3) Be familiar with the implementation of the Facility Response Plan; and
4) Be trained in the responsibilities of the "Qualified Individual" under the response plan.

Proposed responsibilities for the "Qualified Individual" are included on the user's disk and at attachment 3-L. The duties of the primary and alternate "Qualified Individuals" should be adjusted to meet the specific requirements of the facility. Familiarize the "Qualified Individuals" with their duties and those of the response personnel.

The designation of a "Qualified Individual" does not preclude the facility from substituting other qualified persons from a higher organizational level during a larger, more significant spill. Often the regional NOSC will assume the "Qualified Individual" position in a larger spill.

Prepare letters of designation for the "Qualified Individual" and "Alternate Qualified Individual". Draft letters of designation are included in attachment 3-M and on user's disk.

Attachment 3-A

CHAPTER 3 EMERGENCY RESPONSE INFORMATION

3.1 INTRODUCTION. This chapter provides information on spill notification procedures and the resources available to respond to an accidental discharge.

3.2 SPILL NOTIFICATION PROCEDURES. The Quarterdeck is considered the central clearing house for information. Initial notifications are made by the Quarterdeck and the early stages of spill response actions are monitored via the Quarterdeck. In the case of a major spill, management and monitoring responsibilities will be turned over to an ICS structure once it is mobilized. The following notification procedures shall be followed.

3.2.1 Quarterdeck Notified. Anyone observing any amount of oil on land or in the water shall immediately notify the Quarterdeck:

Quarterdeck . . . . .type phone number here

3.2.2 Quarterdeck Takes Report. When receiving a report of a fuel discharge the Quarterdeck shall record as much information as possible on the Spill Notification form. This form will be used to pass on information to all of the appropriate parties. All information on the form should be know at the time of notification or be in the process of being collected. **Notification is not to be delayed in order to collect all of the required information.**

The Quarterdeck shall instruct the individual reporting the spill or shall dispatch personnel to take the following actions:

1) Contain the discharge if possible,
2) Clear the area of all unnecessary personnel
3) Eliminate all possible sources of ignition such as running vehicles, smoking, heaters, etc.
4) Other predetermined initial response actions.

3.2.2 Quarterdeck Makes Notifications. The Quarterdeck shall immediately contact the "Qualified Individual" and describe the known situation in as much detail as possible. The "Qualified Individual" shall provide guidance for recalling personnel to respond to the discharge. Once response personnel have been notified, notifications shall be made in accordance with the Emergency Notification Phone List.

Attachment 3-B

SPILL RESPONSE NOTIFICATION FORM

*** Do not wait for all information before calling NRC ***

National Response Center 1-800-424-8802

Caller's Name:
(Last, First, M.I.) _____

Position: _____

Day Phone Number: ( ) _____

24-hr Phone Number: ( ) _____

Spill Reporter's
Name: _____

Position: _____

Day Phone Number: ( ) _____

Facility Name: _____

Organization Type: U. S. Navy, Federal Government

Facility Address: _____

Were Materials Released (Y/N)? _____ Confidential (Y/N): _____

Meeting Federal Obligations to Report
(Y/N)? _____ Date Called: _____

Calling for Responsible Party (Y/N)? _____ Time Called: _____

Suspected Responsible Party:

Name: _____

Phone: ( ) _____

Company: _____

Company
Address: _____

Organization Type:

_____ Private Citizen

_____ Private Enterprise

_____ Public Utility

_____ Local Government

_____ State Government

_____ Federal Government

SPILL RESPONSE NOTIFICATION FORM

Incident Description (choose one)

Operation Under Way When Spill Occurred:

_____ Fueling/defueling

_____ Internal transfer of fuel (includes transport of fuel from one storage area to another

_____ Bilge dewatering (including donut operations)

_____ Salvage

_____ Other (specify): _____

_____

_____

_____ Unknown

Spill Cause: (provide narrative description of specific spill cause; indicate if one of the following was principal cause)

_____ Structural Failure

_____ Hose Failure or Leak

_____ Other Type Equipment Failure

_____ Valve Misalignment

_____ Monitoring Error

_____ Other Procedural/Communications Error

_____ Other

_____ Unknown

Describe spill cause: _____

_____

_____

_____

Date of Incident: (date discovered) _____ Time of Incident: (time discovered) _____

Incident Address/Location: _____

_____

Nearest City: _____ State: _____

County: _____ Zip: _____

Distance from City: _____ Direction from City: _____

SPILL RESPONSE NOTIFICATION FORM

Section: _____ Township: _____ Range: _____

Container Type: _____ Tank Capacity: _____

Above ground _____ Below ground _____ Unknown _____

Weather Conditions on Scene: _____

Slick Description and Movement (if on water)

Size of slick (length and width) _____

Color (choose one: barely visible, silvery, faint color, bright color bands, dull brown, dark brown) _____

On-Scene Wind: (direction and speed) _____

Sea State: _____

Slick Movement: (direction and speed) _____

Facility Capacity:

Facility Latitude: Degrees Minutes Seconds

Facility Longitude: Degrees Minutes Seconds

Material

CHRIS Code	Released Quantity	Unit of Measure	Material Released in Water	Quantity	Units of Measure

Response Action

Actions taken to correct, control, or mitigate incident:

_____

_____

_____

Response Actions (cont.): _____

_____

_____

_____

Impact

Number of Injuries: _____ Number of Deaths: _____

Were there Evacuations (Y/N)? _____ Number Evacuated: _____

Was there any damage (Y/N)? _____ Damage in Dollars (approx.): _____

Medium Affected: Land Water Other: _____

Description of Impact on Environmental Medium: _____

_____

_____

_____

_____

_____

Additional Information

Any information about the incident not recorded elsewhere in the report?

_____

_____

_____

_____

_____

_____

Caller Notification

EPA (Y/N)? _____ USCG (Y/N)? _____ State (Y/N)? _____

Other (Y/N)? _____ Describe: _____

_____

_____

_____

Attachment 3-C

Date of last update:

EMERGENCY NOTIFICATION PHONE LIST

Reporter's Name: _____

Date: _____

Facility Name:

Facility Identification #:

Organization	Phone Number		Date/Time Contacted
National Response Center	1-800-424-8802		
Qualified Individual		(D)	
Type name here		(N)	
Emergency Response Team (see attached contact list)			
Commanding Officer		(D)	
		(N)	
Chief of Naval Operations CNO Duty Captain (for catastrophic or geopolitical incidents)	AV 225-0231 (202) 695-0231		
Navy On-Scene Commander Type name here			
Operations Officer Type name here			
Public Affairs Officer Type name here			
Staff Judge Advocate Type name here			
Security			
Public Works Officer Type name here			
Supply Officer Type name here			
Navy On-Scene Coordinator			
Type name here			
Fire Department			
State Emergency Response Commission (SERC)			
State Police			

Date of last update:

EMERGENCY NOTIFICATION PHONE LIST

Local Emergency Planning Committee (LEPC) _____

Local Water Supply System _____

Local Television/Radio Stations for Evacuation Notification _____

Type names here _____

_____

_____

Hospitals _____

Type names here _____

Attachment 3-D
OIL SPILL MESSAGE FORMAT

DTG _____

RR

FROM:

TO:

INFO: CNO WASHINGTON DC//OP-452
CHINFO WASHINGTON DC//JJJ//
COMNAVSEASYSCOM WASHINGTON DC//00C24//
COMNAVENGCOM ALEXANDRIA VA//181//
NEESA PORT HUENEME CA//112//
COGARD NATIONAL RESPONSE CENTER WASHINGTON DC//JJJ//
REGIONAL AND LOCAL ACTIVITIES
BT
UNCLAS//NO5090//
MSGID/GENADMIN/*ORIGINATOR*
SUBJ: OIL SPILL REPORT (REPORT SYMBOL OPNAV 509.2)
RMKS/

1. GMT DTG RELEASE OCCURRED/DISCOVERED:

2. ACTIVITY/SHIP ORIGINATING RELEASE: *(for ships: list name, hull no., and UIC; for shore activities: list name, UIC; for non-Navy spills discovered by Navy activity: list name of responsible party (if from commercial firm under contract to Navy: list names of firm and contracting activity); for spills from unknown source: indicate whether spill is thought to have originated from Navy operations).*

3. SPILL LOCATION: *(for spills ar sea: list latitude, longitude, and distance to nearest land; for spills in port: list port name and specific location (pier or mooring designation, etc.); for spills ashore: list specific location within activity (building or area designation, etc.)).*

4. AMOUNT SPILLED IN GALLONS: *(best estimate; if oil/water mixture, indicate percentage oil).*

5. TYPE OF OIL SPILLED: *(choose one: diesel fuel marine (DFM); naval distillate; Navy special fuel oil (NFSO); jet fuels (JP-4, JP-5); aviation/automotive gasoline; automotive diesel; heating fuels (grades 1 and 2, kerosene); residual burner fuel (grades 4, 5, and 6/bunker C); lube/hydraulic oils; oil/oil mixture (including slop and waste oils); oil/water mixture (including bilge waste); other (specify); unknown (provide best estimate, if possible)).*

6. OPERATION UNDER WAY WHEN SPILL OCCURRED: *(choose one: fueling/defueling; internal transfer or fuel (includes transport of fuel from one storage area to another); bilge dewatering (including donut operations); salvage; other (specify); unknown).*

7. SPILL CAUSE: *(provide narrative description of specific spill cause; indicate if one of the following was principal cause: structural failure (specify); hose failure or leak; other type equipment failure (specify); collision/grounding/sinking; valve misalignment; monitoring error; other procedural/communications error (specify); other (specify); unknown).*

8. SLICK DESCRIPTION AND MOVEMENT: *(size: length and width; color (choose one): barely visible, silvery, faint color, bright color bands, dull brown, or*

dark brown; on-scene wind: direction, speed; sea state; slick movement: direction, speed).

9. AREAS DAMAGED OR THREATENED: *(name of body of water affected; nature and extent of damage to property, wildlife, or other resources (if any); areas or resources threatened).*

10. TELEPHONIC REPORT TO NRC WAS MADE: CONFIRMATION #_____

11. SAMPLES WERE/WERE NOT TAKEN: *(normally samples are not taken).*

12. CONTAINMENT METHOD: *(if none, state reason; indicate which of the following equipment utilized: boom; ship's hull; camel; water spray; chemical agent (specify); other (specify)).*

13. SPILL REMOVAL METHOD PLANNED/USED: *(if none, state reason; indicate which of the following equipment utilized: DIP 1002 skimmer; DIP 3002 skimmer; SLURP skimmer; sorbents (oil-absorbing pads, chips, or other materials); dispersants; vacuum trucks/pumps; other (specify)).*

14. PARTIES PERFORMING SPILL REMOVAL: *(indicate one or more of the following: Navy (specify lead organization in charge); commercial firm under contract to Navy; USCG; EPA; state or local agency; other (specify)).*

15. ASSISTANCE REQUIRED/ADDITIONAL COMMENTS:

16. ACTIVITY CONTACT FOR ADDITIONAL INFORMATION: *(name, code, Autovon and/or commercial).//*

FACILITY EQUIPMENT LIST

Date of last update:

SKIMMERS

Inspection Frequency: Est. Repl. Date:

Type, Model, Year	Capacity (gpm)	Daily Effective Recovery Rate	Storage Location	Last Inspection Date (mo., yr.)	Date Fuel Last Changed (Mo, Yr)

BOOMS

Inspection Frequency: Shelf Life:

Type, Model, Year			Size	Containment Area (sq. ft.)	Storage Location	Last Inspection (mo., yr.)

FACILITY EQUIPMENT LIST

Date of last update:

SORBENTS

Inspection Frequency: _____ Shelf Life: _____

Type & Year Purchased	Quantity	Absorption Capacity (gallons)	Storage Location	Last Inspection (mo., yr.)

HAND TOOLS

Inspection Frequency: _____

Type & Year	Quantity	Storage Location	Last Inspection (mo., yr.)

FACILITY EQUIPMENT LIST

Date of last update:

COMMUNICATION EQUIPMENT

Inspection Frequency: _____ Shelf Life: _____

Type & Year	Quantity	Operating Frequency & Channel and/or Cellular Phone Number	Storage Location	Last Inspection (mo., yr.)

FIRE FIGHTING AND PERSONAL PROTECTIVE EQUIPMENT

Inspection Frequency _____ Shelf Life: _____

Type & Year	Quantity	Storage Location	Last Inspection (mo., yr.)

FACILITY EQUIPMENT LIST

Date of last update:

OTHER EQUIPMENT (E.G., HEAVY EQUIPMENT, BOATS, AND MOTORS)

Type & Year	Quantity	Storage Location	Inspection Frequency (mo., yr.)	Last Inspection (mo., yr)

FACILITY EQUIPMENT LIST

Date of last update:

FOLLOWING EQUIPMENT LISTS REQUIRED FOR PIPELINE PLANS

TRANSFER HOSES AND CONNECTION EQUIPMENT

Inspection Frequency: _____ Shelf Life: _____

Type & Year	Quantity	Size	Storage Location	Last Inspection (mo., yr.)

PORTABLE PUMPS AND ANCILLARY EQUIPMENT

Inspection Frequency: _____ Shelf Life: _____

Type & Year	Quantity	Size	Storage Location	Last Inspection (mo., yr.)

FACILITY EQUIPMENT LIST

Date of last update:

FACILITIES TO TRANSPORT AND RECEIVE OIL

Inspection Frequency: _____

Location	Capacity		Remarks

EMERGENCY RESPONSE TEAM				
Date of last update:				
Team Member Name	**Team Position**	**Day Phone Number**	**24-hr Number**	**Response Time (in minutes)**

Attachment 3-G

FACILITY PERSONNEL LIST

Date of last update:

Name	Position	Day Phone Number	24-hr Phone Number	Response Time from home (in minutes)	Spill Responsibilities

INTERAGENCY AGREEMENT (IAA) BETWEEN THE UNITED STATES NAVY AND THE UNITED STATES COAST GUARD FOR COOPERATION IN OIL SPILL CLEAN-UP OPERATIONS AND SALVAGE OPERATIONS

I. PURPOSE: To specify for U.S. Coast Guard and U.S. Navy application:

A. Conditions and procedures under which the U. S. Coast Guard can request and the U.S. Navy will provide oil spill clean-up and/or salvage equipment and services to support the U.S. Coast Guard in non-Navy oil spills and other operations requiring salvage expertise.

B. Conditions and procedures under which the U.S. Navy can request and the U.S. Coast Guard will provide equipment and services to support the U.S. Navy in salvage operations and in response to oil spills which are caused by facilities or vessels under Navy jurisdiction.

C. Reimbursement procedures and policies.

II. BACKGROUND: The National Oil and Hazardous Substances Pollution Contingency Plan, promulgated under the authority of the Federal Water Pollution Control Act, (FWPCA) (33 USC 1251, et. seq.) confers on the Coast Guard (or the Environmental Protection Agency in designated areas) responsibility for designating Federal On-Scene Coordinators (OSC) to coordinate Federal agency resources in cleaning up any oil or hazardous substance discharged in U.S. navigable waters, the contiguous zone or waters beyond the contiguous zone up to approximately 200 miles. In addition to having the responsibility and expertise to respond promptly in cases of discharges from Navy operated or supervised ships and facilities, the Navy is also the governmental agency possessing expertise in ship salvage and salvage-related operations. The OSC, may access this expertise for the cleanup and

control of any oil spill. The Coast Guard may also access the Navy's salvage expertise to assist during other operations conducted by the Coast Guard. Alternatively, the Navy may access the Coast Guard's expertise in oil spill control and other assets for salvage operations.

III. RESOURCES: Under the terms of this Agreement, the following resources may be provided:

A. When requested by the U.S. Coast Guard pursuant to Section V herein, the U.S. Navy will furnish to the U.S. Coast Guard the following resources consistent with availability and operational commitments as determined by the Navy:

(1) Salvage equipment and specialized oil spill control and clean-up equipment.

(2) Salvage, diving and oil spill control consultation, evaluation, planning and operational services.

(3) Naval Craft, vessels and aircraft.

B. When requested by the U.S. Navy pursuant to Section VI herein the U.S. Coast Guard will furnish to the U.S. Navy the following resources consistent with availability and operational commitments as determined by the Coast Guard.

(1) Oil spill consultation, evaluations, planning and operational services

(2) Specialized oil spill control and clean-up equipment.

(3) Coast Guard craft, vessels and aircraft.

IV. FEDERAL ORGANIZATION AND RESPONSIBILITIES: U.S. Navy response to U.S. Coast Guard Federal On-Scene Coordinator (OSC) requests for services and

equipment in non-Navy oil spills will be provided in accordance with the National Contingency Plan (Part 1510, Chapter V, Title 40 CFR) and the terms of this IAA.

The Coast Guard OSC will coordinate and direct Federal oil spill control and cleanup efforts in the event of an incident in his area of responsibility. In the event that commercial resources and/or expertise are not available to carry out the required cleanup, the OSC will arrange for the use of Federal and/or State resources. Unless prearrangements have been made, the OSC will seek the assistance of the Regional Response Team in accessing the needed advice and/or resources.

U.S. Navy Salvage operations, conducted in support of other Coast Guard activities, will be coordinated by the Coast Guard On-Scene Commander or Coast Guard Officer-In-Charge of the operation, subject to the operational and technical control of the Navy Salvage Officer.

V. COAST GUARD REQUESTS FOR NAVY ASSISTANCE:

A. When local or regional interagency contingency plans contain adequate provision for identification, deployment of, and reimbursement for locally available Navy pollution control assets, OSC requests for such assets will be made through the Navy or DoD member of the RRT. The Navy (or DoD) member will have prearranged with the Navy Area Coordinator and the cognizant Navy supplier activity commander for authority to commit these resources to the OSC with the utmost expediency. It shall be the responsibility of the OSC to follow up such a request with a confirming message to the supplier activity and Navy Area Coordinator referencing the request and citing pertinent

operational and funding information. Requests forwarded by OSCs shall include the following information:

(1) Circumstances of the spill, e.g., location, quantity and

(2) Extent of assistance required.

B. When adequate local activity assets are not available, or difficulties arise in arranging for their deployment and cannot be resolved on the RRT level, the matter shall be referred to the National Response Team (NRT) for resolution. Requests forwarded by RRTs shall include the information called for in V.A. above.

(1) The Coast Guard NRT representative or National Response Center (NRC) Duty Officer will relay all requests for assistance from the OSC/RRT to the Chief of Naval Operations Navy Department Duty Captain (OP-641/642) for action. (24 hour telephone: 202-695-0231). Such referrals will specify the above mentioned information relating to the conditions and circumstances of the oil spill.

(2) All Coast Guard telephonic requests for assistance referred to in paragraph (1) will be followed promptly by a documenting message from the Coast Guard. This message will reference and detail the initial OSC request and must include accounting data identification for reimbursement to the Navy of the costs identified in Section VIII of this Agreement. The message shall be addressed to CNO, Washington, D.C., Attn: OP-64/45/23/37, to CHNAVMAT, Washington, D.C. Attn: MAT-044; to COMNAVSEASYSCOM, Washington, D.C., Attn: NAVSEA-OOC; to COMNAVFACENGCOM Alexandria, VA; to CINCLANTFLT, Norfolk, VA., or CINCPACFLT, Pearl Harbor, HI., (as appropriate); and to Commandant, U.S. Coast Guard and the NRC (as appropriate). The Navy will properly document increases in the projected cost of its assistance and will so inform the OSC by message referencing the Coast Guard's message.

C. If NAVSEASYSCOM assistance is anticipated, OSCs may, prior to formal tasking, directly communicate with NAVSEASYSCOM at 202-697-7403 (normal workday), other times 202-692-7527 for technical matters.

D. In oil spill related cases where it becomes necessary to assist the Coast Guard by mobilizing Navy forces other than Navy pollution control assets, the Coast Guard representative to the NRT or the Coast Guard NRC Duty Officer will relay requests received from the Coast Guard OSC via the RRT to the Navy Department Duty Captain (OP-641/642) outlining the specific circumstances of the request. Each request for such assistance will contain the information set forth in paragraph V.A. of this Agreement.

E. For purposes of this Agreement items are to be considered under the administrative control of the OSC from the time they are delivered for his use, whether such delivery is made at the scene of the incident or to a representative of the OSC at a location other than at the scene, through the time the item is redelivered to the Navy or its representative.

F. All Coast Guard requests for salvage assistance in other Coast Guard operations will be relayed by the appropriate Coast Guard Headquarters authority to the Navy Department Duty Captain. The requests shall include information similiar to that called for in V.A. of this Agreement.

VI. NAVY REQUESTS FOR COAST GUARD ASSISTANCE:

A. Coast Guard resources will be provided, subject to their availability, to assist Naval Activities in responding to pollution discharges caused by facilities or vessels under Navy jurisdiction. Requests for such assistance shall be relayed by the Navy representative to the NRT or to the National Response Center. Reimbursement will be made in accordance with the guidelines established in Section VIII of this Agreement.

B. Coast Guard resources will be provided, subject to their availability, to assist the Navy during salvage operations. Requests for such assistance shall be relayed by the cognizant Navy Commander to the Coast Guard Commander Atlantic Area (Aom) for resources located on the Atlantic and Gulf Coasts, and to Commander Pacific Area (Pom) for resources located on the Pacific Coast. Reimbursement will be made in accordance with the guidelines established in Section VIII of this Agreement

C. For purposes of this Agreement items are to be considered under the administrative control of the Navy from the time they are delivered to the location and/or representative specified by the Navy, through the time the item is redelivered to the Coast Guard or its representative.

VII. LOCAL ARRANGEMENTS FOR ASSISTANCE:

Coast Guard OSC's and local Naval commands, having oil spill cleanup capabilities, are encouraged to enter into agreements for the utilization of those capabilities to respond immediately to discharges of oil occurring within, or in threatening proximity of, the waters of a U.S. Naval base or facility regardless of whether the Navy is responsible for the discharge. Wherever such agreements are reached, the Coast Guard will reimburse the Navy for Navy costs incurred in undertaking such actions as per Section VIII of this Agreement, unless it is subsequently determined that the Navy was responsible for discharge.

VIII. REIMBURSEMENT PROCEDURES AND POLICIES:

A. The Federal On-Scene Coordinator is responsible for insuring that proper cost documentation records are maintained.

B. Navy and Coast Guard activities providing advice and assistance are responsible for providing OSCs with supporting documentation for cost accounting.

C. Navy and Coast Guard activities providing assistance in support of the cleanup operation as requested by an OSC are entitled to reimbursement for the following items:

(1) Travel, per diem, and overtime costs for personnel.

(2) Rental costs, as approved by the parent agency, for nonexpendable equipment provided.

(3) Replacement costs for expendable materials provided and utilized

(4) Replacement or repair costs for nonexpendable equipment which is damaged while under the administrative control of the OSC.

(5) Transportation costs incurred in delivering items to and from the scene.

(6) Incremental operating and contract costs incurred as a result of providing assistance to OSCs.

D. Normal salary costs of government employees in positions that are not normally intended to provide services in support of response operations are reimbursable. Salaries of reserve personnel called on active duty specifically to assist in a Federal response activity are reimbursable.

E. The fiscal agent for the U.S. Coast Guard will be the Comptroller of the cognizant Coast Guard District.

F. The fiscal agent for the U.S. Navy under Section V. A. of this Agreement will be the local activity Commanding Officer, and under V. B. will be the Commander, Naval Sea Systems Command (NAVSEA-01), Washington, D.C. 20362.

G. Subject to the Coast Guard's ultimate collection responsibility for services and operations provided by the Navy under this agreement, NAVSEA-01

or the local activity, depending on the applicability of V.A. or V.B., shall be responsible for making collections from the Coast Guard and shall make appropriate disbursements of transfer of funds within the respective Navy organizations.

H. Paragraphs A through G above apply only to the reimbursement of costs to the Navy in connection with FWPCA response actions. Paragraphs E and F apply to all reimbursements covered by this Agreement. Normal accounting procedures (interagency transfers) apply (1) to reimbursements not related to FWPCA response actions, and (2) to reimbursements to the Coast Guard for the use of their equipment and services in a FWPCA response action conducted by the Navy.

IX. NOTIFICATION: The terms of this Agreement, amplified as necessary to provide detailed guidance and procedures for reimbursement, will be promulgated to components of the Coast Guard and the Navy.

SUPSALV OIL SPILL RESPONSE EQUIPMENT INVENTORY
staged in the United States
as of 11 Sep 92

Equipment Description	Quantities/Location		
	Williamsburg, VA	Stockton, CA	Pearl Harbor, HI
Spilled Oil Recovery			
SKIMMER VESSEL SYSTEM (36" ALUMINUM HULL)	11	11	2
SKIMMER SYSTEM (SORBENT BEL VOSS**)	1	1	0
SKIMMING SYSTEM (SCREW PUMP VOSS**)	2	2	0
SKIMMER, SORBENT ROPE MOP (36")	2	1	0
BOOM VANS (42" X 1980' BOOM)	5	6	1
BOOM MOORING SYSTEM	37	34	4
BOOM HANDLING BOAT (24' 260 HP DIESEL)	12	6	2
BOOM TENDING BOATS (19' & 23' INFLATABLE)	2	2	1
BOOM TENDING BOATS (18' RIGID HULL)	4	4	1
136K OIL STORAGE BLADDER	7	4	0
26K OIL STORAGE BLADDER	3	3	2
Casualty Offloading			
PUMP SYSTEM, POL 6" SUBMERSIBLE	8	6	4
FLOATING HOSE (6" X 100')	65	0	0
HOT TAP SYSTEM	2	2	1
BOARDING KIT	1	1	1
FENDER SYSTEM (8' X 12' FOAM)	7	4	0
FENDER SYSTEM (14' X 60' LP AIR)	8	0	0

SUPSALV OIL SPILL RESPONSE EQUIPMENT INVENTORY
staged in the United States
as of 11 Sep 92

Equipment Description	Quantities/Location		
	Williamsburg, VA	Stockton, CA	Pearl Harbor, HI
FENDER SYSTEM (10′ X 50′ LP AIR)	24	0	0
Ancillary Equipment			
COMMAND TRAILER (40′ COMMUNICATIONS & COMMAND CTR)	1	1	0
COMMAND VAN (20′ COMMUNICATIONS & COMMAND CTR)	2	2	1
SHOP VANS	1	2	1
RIGGING VANS	2	2	1
PERSONNEL BUNK VANS	2	0	0
BEACH TRANSFER SYSTEM (4WD VEHICLES)	1	0	0
COMMUNICATION SYSTEM (SAT PHONE, LAND)	2	0	0
COMMUNICATION SYSTEM (SAT PHONE, SHIP)	1	0	0
OIL/WATER SEPARATOR (PARALLEL PLATE 100 GPM)	2	1	0
CLEANING SYSTEM	1	1	1
**VOSS: Vessel of opportunity skimmer system			

OTHER NAVY FACILITIES/GOVERNMENT AGENCY RESOURCES				
Date of last update:				
Facility Name	Point of Contact	24-hr Phone Number	Response Time (in hours)	Agreed Responsibilities

Attachment 3-K

CONTRACTOR/COOPERATIVE RESOURCES				
		Date of last update:		
Contractor/Cooperative Name	Day Phone Number	24-hr Phone Number	Response Time (in minutes)	Contract Responsibility

Attachment 3-L

QUALIFIED INDIVIDUAL DUTIES

The "Qualified Individual" has full authority to implement response actions. The "Qualified Individual" duties include:

- Activating internal alarms and hazard communication systems to notify all facility personnel;
- Directing notification of all response personnel, including contractor personnel, as needed;
- Identifying the character, exact source, amount, and extent of the release, as well as the other items needed for notification;
- Notifying and providing necessary information to the appropriate Federal, State, and local authorities with designated response roles, including the National Response Center, SERC, and LEPC;
- Assessing the interaction between the spilled substance and water and/or other substances stored at the facility, and notify response personnel at the scene of that assessment;
- Assessing the possible hazards to human health and the environment due to the release, including both the direct and indirect effects of the release (i.e., the effects of any toxic, irritating, or asphyxiating gases that may be generated, or the effects of any hazardous surface-water runoffs from water or chemical agents used to control fire and heat-induced explosion);
- Assessing and implementing prompt removal actions to contain and remove the substance released;
- Coordinating rescue and response actions as previously arranged with all response personnel;
- Obtaining authority to immediately access company funding to initiate cleanup activities;
- Directing cleanup activities until properly relieved of this responsibility by the appropriate authorities (e.g., the Federal OSC who assumes control of a cleanup under NCP authority); and
- Acting as a liaison with the predesignated Federal On-Scene Coordinator (OSC).

The "Qualified Individual" is not responsible for:

- The adequacy of response plans prepared and submitted by the facility commander;
- Contracting or obligating funds for response resources beyond the authority contained in their designation.

Attachment 3-M
SAMPLE LETTER OF DESIGNATION FOR QUALIFIED INDIVIDUAL

SSIC
Code/Serial
Date

From:
To: *Name, SSN*

Subj: DESIGNATION OF *NAME, SSN* AS OIL SPILL RESPONSE QUALIFIED INDIVIDUAL

Ref: (a) Complex Facility Response Plan

1. You are hereby designated as *Name of Facility's* Oil Spill Response Qualified Individual. You will be guided by reference (a) in the performance of your duties. Specific responsibilities include:

a) Activating internal alarms and hazard communication systems to notify all facility personnel;

b) Directing notification of all response personnel, including contractor personnel, as needed;

c) Identifying the character, exact source, amount, and extent of the release, as well as the other items needed for notification;

d) Notifying and providing necessary information to the appropriate Federal, State, and local authorities with designated response roles, including the National Response Center, SERC, and LEPC;

e) Assessing the interaction between the spilled substance and water and/or other substances stored at the facility, and notify response personnel at the scene of that assessment;

f) Assessing the possible hazards to human health and the environment due to the release, including both the direct and indirect effects of the release (i.e., the effects of any toxic, irritating, or asphyxiating gases that may be generated, or the effects of any hazardous surface-water runoffs from water or chemical agents used to control fire and heat-induced explosion);

g) Assessing and implementing prompt removal actions to contain and remove the substance released;

h) Coordinating rescue and response actions as previously arranged with all response personnel;

i) Obtaining authority to immediately access company funding to initiate cleanup activities;

j) Directing cleanup activities until properly relieved of this responsibility by the appropriate authorities (e.g., the Federal OSC who assumes control of a cleanup under NCP authority); and

k) Acting as a liaison with the predesignated Federal On-Scene Coordinator (OSC).

2. You are directed to immediately notify the command of any deficiencies in any resources or the Facility Response Plan which prevent you from performing your duties.

3. You will coordinate the annual review and update of the Facility Response Plan.

NAME OF SIGNER

Copy to:

SAMPLE LETTER OF DESIGNATION FOR ALTERNATE QUALIFIED INDIVIDUAL

SSIC
Code/Serial
Date

From:
To: *Name, SSN*

Subj: DESIGNATION OF *NAME, SSN* AS ALTERNATE OIL SPILL RESPONSE QUALIFIED INDIVIDUAL

Ref: (a) Complex Facility Response Plan

1. You are hereby designated as *Name of Facility's* Alternate Oil Spill Response Qualified Individual. You will be guided by reference (a) in the performance of your duties. You will perform the duties of the Oil Spill Response Qualified Individual in their absence. Specific responsibilities include:

a) Activating internal alarms and hazard communication systems to notify all facility personnel;

b) Directing notification of all response personnel, including contractor personnel, as needed;

c) Identifying the character, exact source, amount, and extent of the release, as well as the other items needed for notification;

d) Notifying and providing necessary information to the appropriate Federal, State, and local authorities with designated response roles, including the National Response Center, SERC, and LEPC;

e) Assessing the interaction between the spilled substance and water and/or other substances stored at the facility, and notify response personnel at the scene of that assessment;

f) Assessing the possible hazards to human health and the environment due to the release, including both the direct and indirect effects of the release (i.e., the effects of any toxic, irritating, or asphyxiating gases that may be generated, or the effects of any hazardous surface-water runoffs from water or chemical agents used to control fire and heat-induced explosion);

g) Assessing and implementing prompt removal actions to contain and remove the substance released;

h) Coordinating rescue and response actions as previously arranged with all response personnel;

i) Obtaining authority to immediately access company funding to initiate cleanup activities;

j) Directing cleanup activities until properly relieved of this responsibility by the appropriate authorities (e.g., the Federal OSC who assumes control of a cleanup under NCP authority); and

k) Acting as a liaison with the predesignated Federal On-Scene Coordinator (OSC).

2. You are directed to immediately notify the command of any deficiencies in any

resources or the Facility Response Plan which prevent you from performing your duties.

3. You will assist the Oil Spill Response Qualified Individual in performing the annual review and update of the Facility Response Plan.

NAME OF SIGNER

Copy to:

CHAPTER 4. HAZARD EVALUATION

Discuss in the response plan the facility's history of discharges reportable under 40 CFR part 110,(e.g. causes a visible sheen or discoloration on the water, violates water quality standards, or causes a sludge to be deposited) identify areas within the facility where discharges could occur, and indicate the potential effects of discharges on the environment. This section will help the owner/operator identify and evaluate the range of possible scenarios in which oil could be released from their facility.

A hazard evaluation consists mainly of three components:

* Hazard Identification which identifies and characterizes potential spill sources and accident sites where a spill could occur at a facility.

* Vulnerability Analysis which will evaluate the potential consequences associated with different discharge scenarios.

* Risk Analysis to evaluate the likelihood that individual discharge scenarios will occur in relation to environmentally sensitive areas.

To comply with the requirements of this section and complete the three hazard evaluation components:

- Compile an accident history for your facility
- Document the location of tanks and surface impoundments
- Develop a schematic drawing of your facility
- Describe facility operations
- Identify vulnerable sites
- Identify environmentally sensitive and economically important areas
- Model the impacts of a spill scenario
- Determine the likelihood of a spill occurrence
- Assess the risks of a spill

Guidance on carrying out these steps is provided in the sections below. These sections will help you:

- Identify environmentally sensitive areas
- Compile a spill history for your facility and identify all possible hazards at your facility that could result in a discharge;
- Evaluate the consequences of a possible discharge, including both the size of the spill and potential impacts to the surrounding community;
- Assess the likelihood of each discharge scenario

4.1 ENVIRONMENTALLY SENSITIVE AREAS (ESAs). You will need to identify ESAs since they will require more stringent protective measures than other areas in the event of a discharge. These areas will require increased awareness during the planning process.

ESAs may include a variety of areas such as wetlands, national and state parks, critical habitats for endangered and threatened species, wilderness and natural areas, marine sanctuaries, conservation areas, preserves, wildlife areas, scenic and wild rivers, seashore and lakeshore recreational areas, and critical biological resource areas.

Other areas that may also be considered by the Coast Guard to be environmentally sensitive include historical and archeological sites and parks, unique habitats, aquaculture sites, bird nesting areas, designated migratory routes, and designated seasonal habitats.

4.1.1 Sources to Identify ESAs. There are 4 basic sources to help identify the facility's ESAs:

1) Public Works Environmental Division and Natural Resources Division

2) USGS topographic maps

3) Specialized maps or charts from specific agencies

4) Professional judgement

4.1.1.1 Public Works. Every base has a public works department, staff civil engineer, activity civil engineer, environmental division or comparable that will probably have maps delineating the ESAs. These maps should help in identifying the vulnerable zones around the tanks and surface impoundments.

4.1.1.2 USGS Topographic Maps. Many categories of ESAs are highlighted on USGS topographic maps. These maps are available from the USGS Earth Science Information Centers in Virginia, Alaska, California, Colorado, Mississippi, Missouri, and South Dakota. The toll free number is 1-800-USA-MAPS. Categories of ESAs on the map include:

- Designated Federal Wilderness Areas
- National Conservation Areas
- National Lakeshore Recreational Areas
- National Monuments
- National Parks
- National Preserves
- National Seashore Recreational Areas
- Wetlands (in some cases)

4.1.1.3 ESAs Delineated on Specialized Maps. Several categories of environmentally sensitive areas are delineated on specialized maps, charts, or other documents available from various Federal and State agencies. Note that most of the ESAs delineated on USGS topographic maps also are shown on specialized maps. Categories of ESAs in this group include:

- Areas identified under the Coastal Zone Management Act
- Critical areas identified under the Clean Lakes Program
- Critical habitats for federal designated endangered or threatened species
- Federal designated wild or scenic rivers
- Habitats used by marine mammals defined or proposed for definition as depleted
- Hatcheries
- Marine sanctuaries
- National river reaches designated as recreational
- Areas identified under the National Estuary Programmer Near Coastal Waters Program
- State designated wild or scenic rivers
- Units of the Coastal Barrier Resources System
- Wetlands (in some cases)

4.1.1.4 Professional Judgement. Several categories of ESAs generally are not depicted on maps or otherwise described in specialized publications. Identifying and delineating these ESAs will require professional judgement. Categories of environmentally sensitive areas in this group include:

- Coastal barriers
- Habitats used by a federal designated or proposed endangered or threatened species
- Habitats used by a species under review as to its federal endangered or threatened status
- Habitats known to be used by a state designated endangered or threatened species
- Wetlands

The public works department, staff civil engineer, and environmental division will be able to help in identifying these ESAs. The federal, state and local agencies will also have experts who will be able to establish areas that are environmentally sensitive.

4.2 HAZARD IDENTIFICATION

Hazard identification requires that you observe the conditions under which oil is used, produced, processed, or stored at your facility. The hazard identification process consists of 4 major steps:

STEP (1) COMPLETE A FACILITY SPILL HISTORY. The most important step in hazard identification is to develop a complete spill history. Include in the response plan the facility's entire life history of reportable discharges under 40 CFR part 110. Under 40 CFR part 110, reportable spills are those that: (a) cause a film, sheen or discoloration on the water or adjoining shorelines, (b) violate applicable water quality standards, or (c) cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines. The following tables, 4-1 and 4-2, are examples of a facility spill history log.

TABLE 4-1: FACILITY SPILL HISTORY LOG

Event Information	Name of Event		
	Spill "A"	Spill "A"	Spill "C"
Date of discharge			
List of discharge causes			
Material discharged			
Amount discharged (gallons)			
Amount discharged into navigable waters (gallons)			
Effectiveness/capacity of secondary containment			
Cleanup actions			
Steps to reduce possibility of recurrence			
Total capacity of tank/surface impoundment involved in spill			
Enforcement actions			
Effectiveness of monitoring equipment			
Description of how spill was detected			

Table 4-2 is another example of a facility spill history summary sheet. This sheet is for an individual spill and should be completed for each individual oil spill or release.

TABLE 4-2: FACILITY SPILL HISTORY SUMMARY SHEET

Date of discharge:
List of discharge causes:
Material(s) and amounts discharged:
Amount of discharge that reached navigable waters, if applicable:
Effectiveness and capacity of secondary containment:
Clean-up actions taken:
Steps taken to reduce possibility of recurrence:
Total capacity of the tank(s) or SI(s) from which the materials discharged:
Enforcement actions:
Effectiveness of monitoring equipment:
Description of how spill was detected:

STEP (2) DOCUMENT THE LOCATION OF TANKS AND SURFACE IMPOUNDMENTS. The next step in hazard identification is to document the location of on-site tanks, surface impoundments, SI, and other containers. Tables 4-3 and 4-4 list sample tank and surface impoundment forms to use in documenting your hazard identification efforts. This information should be available through the Public Works Department or the Environmental Office assigned to your facility. To complete these forms:

* List each tank, SI, or storage container on a separate line of the appropriate sheet. Aboveground tank identifiers must begin with an "A" and below ground tank identifiers with a "B", or you can submit separate sheets for each type of tank.

* Record all the materials stored in each tank or SI.

* Provide the average volume of material stored on any given day in each tank or SI.

* For each tank, report the type of tank and the year that the tank was originally installed. If the tank has been refabricated, also record the year that the latest refabrication was completed.

* For each SI, record the surface area of the impoundment and the year it went into service.

* Record the operational maximum capacity for each tank and SI. If the maximum capacity varies with the season, record the upper and lower limits.

* Record the cause and date of any tank or SI failure that has resulted in a loss of tank or SI contents.

STEP (3) DEVELOP A SCHEMATIC DRAWING. The third step in hazard identification is to use the appropriate tank and SI forms, tables 4-3 and 4-4, to develop a schematic drawing of the facility. Indicate on the drawing the tank and surface impoundment locations, environmentally sensitive areas, and economically important areas. This drawing should be identical to any schematic drawings included in the SPCC Plan. These drawings should be readily available through your local Staff Civil Engineer Office or the Public Works Department Planning/Engineering Division. These drawings will serve to identify the locations that pose the greatest potential hazards to the facility and the surrounding community.

STEP (4) DESCRIBE FACILITY OPERATIONS. The final step in hazard identification is to describe transportation methods, day to day operations, secondary containment systems, normal daily throughput, and any effect that a change in throughput would have on potential release scenarios. The accident history, which you have already compiled in table 4-1, will serve as a means to locate the areas that pose the greatest risk. Therefore, these locations should be described in greater detail (based on the information contained in your facility spill history document).

TABLE 4-3: HAZARD IDENTIFICATION FOR TANKS

Tank Number	Substance Stored	Quantity Stored (gallons)	Tank Type/year	Maximum Capacity (gal)	Failure/Cause

TABLE 4-4: HAZARD IDENTIFICATION FOR SURFACE IMPOUNDMENTS (SI)

SI Number	Substance Stored	Quantity Stored (gallons)	Surface Area/year	Maximum Capacity (gal)	Failure/Cause

4.3 VULNERABILITY ANALYSIS. This is the second component in the hazard evaluation process. It estimates the potential impacts a spill may have on various vulnerable receptors. To estimate the impact, determine the area that could be affected by the worst case discharge then identify the receptors within that area that are at contamination risk.

Using the information gathered in section 4.1 and the location and data from past spills will give an excellent indication of oil travel, vulnerability zones, and vulnerability sites.

The vulnerability zone, area affected by a spill, is influenced by numerous factors including the spill size, location, topography, and facility layout. The receptors can be affected by oil spreading over land or moving along a navigable waterway.

To quantify or model this vulnerability zone and movement of oil, you will need to calculate the distance the oil will be transported on moving navigable waters and/or still waters. Two separate formulas will be used to calculate these distances. Refer to Attachment 4-A at the end of this chapter for a discussion on how to calculate the planning distances.

Once the vulnerability zones have been established, identify all vulnerable sites and receptors within the zone (i.e. within the calculated distance that oil could travel prior to cleanup). Examples of vulnerable sites and receptors include:

- water intakes (drinking, cooling, other)
- schools
- medical facilities
- residential areas
- businesses
- wetlands or other environmentally sensitive areas
- fish and wildlife
- lakes and streams
- endangered flora and fauna
- recreational areas
- transportation routes (i.e. air, land, and water)
- utilities
- other areas of economic importance

4.4 RISK ANALYSIS. This is the third component of the hazard evaluation. Risk analysis evaluates the probability that a reportable spill will occur based on factors such as historical accident data for the facility, industry records, uses of oil at the facility, tank age, and presence of secondary containment, alarms and leak detection devices.

The probability of a particular discharge scenario occurring can be estimated if the potential for a spill is dominated by a single event and frequency data for the event are available. However, if this data is not available, in your report qualitatively represent the potential for each spill using the following system.

TABLE 4-6: PROBABLE LEVEL OF HARM

		PROBABLE LEVEL OF HARM		
		SUBSTANTIAL	**MODERATE**	**SLIGHT**
PROBABILITY OF DISCHARGE	**LOW**[1]			
	MEDIUM[2]			
	HIGH[3]			

[1] Low: Probability of occurrence considered unlikely during the expected lifetime of the facility, assuming normal operation and maintenance

[2] Medium: Probability of occurrence considered possible during the expected lifetime of the facility

[3] High: Probability of occurrence considered sufficiently high to assume event will occur at least once during the expected lifetime of the facility.

This information can be combined with information on the locations of vulnerable sites to create a matrix that summarizes the actual risks that each release scenario might pose.

ATTACHMENT 4-A: PLANNING DISTANCE CALCULATIONS

In determining the distance that discharged oil may travel from your facility, consider transport of oil both on water and over land. Because discharged oil can be transported quickly and unimpeded once it reaches navigable water, your primary concern will probably be transport on navigable water. However, a facility may not be located such that a discharge would directly enter navigable waters. In this case, you must consider the likelihood that oil from your facility could reach navigable water by transport over land.

The following procedure outlines a process to determine oil transport. This process is just an approximation. If your facility has had studies done in the past of flow, velocity, river current speeds or similar reports, these should be used instead of the calculations presented below. Do not let the rough estimates presented in this attachment overshadow sound engineering analysis and judgement.

Table 4-A-1 shows the distance formula for oil transport on moving navigable waters. The velocity is determined by using the Chezy-Manning equation, table 4-A-2. The Chezy-Manning equation models the flow of water in open channels.

This equation contains three variables which must be determined by you, the facility owner or operator: Manning's Roughness Coefficient, n; the hydraulic radius, r; and the average slope of the river or body of water, s.

n = Manning's Roughness Coefficient. This can be determined from table 4-A-3.

r = The hydraulic radius. The hydraulic radius can be evaluated using the average mid channel depth from charts provided by the sources listed in table 4-A-4 or it can be approximated for parabolic channels by multiplying the average mid channel depth of the river or water body (in feet) by .667.

s = The average slope of the river/water body can be obtained from topographic maps supplied by the USGS listed in table A-4.

The average slope of the river can be determined from the topographic maps using the following steps:

- Locate the facility on the map
- Find the Normal Pool Elevation at the point of release from the facility into the water (A).
- Find the Normal Pool Elevation of the drinking water intake or environmentally sensitive area located downstream (B). (Note: The owner or operator should use a minimum of 20 miles downstream as a cutoff to obtain the average slope if the location of a specific drinking water intake or environmentally sensitive area is unknown.)
- If the Normal Pool Elevation is not available, the elevation contours can be used to find the slope. Determine elevation of the water at the point of release from the facility (A). Determine the elevation of the water at the appropriate distance downstream (B). The formula presented below can be used to calculate the slope.
- Determine the distance (in miles) between the facility and the drinking water intake or environmentally sensitive area (C).
- Use the following formula to find the slope, which will be a

unitless value:

Average Slope = [(A-B) (ft)/C (miles)]*[1 mile/5280 feet]

If it is not feasible to determine the slope and midchannel depth as required by the Chezy-Manning equation, the river velocity can be approximated on site. A specific length, such as 100 feet, can be marked off along the shoreline. A float can be dropped into the stream above the mark, and the time required for the float to travel the distance can be used to determine the velocity in feet per second. However, this method will not yield an average velocity for the length of the stream, but a velocity only for the specific location of measurement. In addition, the flow rate will vary depending on weather conditions such as wind and rainfall. We recommended that you repeat the measurement under various conditions to obtain a more accurate estimate.

TABLE 4-A-1: DISTANCE FORMULA FOR OIL TRANSPORT ON MOVING WATER

D = V*T*C

D = Distance(miles) downstream that oil could travel before being contained

V = Surface velocity (ft/sec) of the waters as determined by the Chezy-Manning equation, tables A-2 and A-3.

T = Time interval (hours) for response actions, table A-5

C = .68 sec-mile/hr-ft, constant conversion factor

TABLE 4-A-2: CHEZY-MANNING'S EQUATION

$$V = 1.5/n * r^{2/3} * s^{1/2}$$

V = Surface velocity of the river or water body of concern in (ft/sec)

n = Manning's Roughness Coefficient from table A-3

r = Hydraulic radius from the sources listed in table A-4

s = The average slope of the river obtained from topo maps supplied by the USGS listed in table A-4.

TABLE 4-A-3 MANNING'S ROUGHNESS COEFFICIENT

STREAM DESCRIPTION	ROUGHNESS COEFFICIENT (n)
MINOR STREAMS (Top Width < 100ft)	
Clean Straight Winding	 .03 .04
Sluggish (Weedy, deep pools) No trees or brush Trees and/or brush	 .06 .10
MAJOR STREAMS (Top Width >100 ft)	
Regular Section (no boulders/brush)	.035
Irregular Section (brush)	.05

TABLE 4-A-4: SOURCES OF r AND s FOR THE CHEZY MANNING EQUATION

All of the charts and related publications for navigational waters may be ordered from:

Distribution Branch (N/CG33)
National Ocean Service, Riverdale, Maryland 20737-1139; (301) 436-6990

There will be a charge for materials ordered and a VISA or Mastercard will be accepted.

The mid channel depth to be used in the calculation of the hydraulic radius (r) can be obtained directly from the following sources:

Charts of Canadian Coastal and Great Lakes Waters:

Canadian Hydrographic Service, Department of Fisheries and Oceans Inst
P.O. Box 8080, 1675 Russel road, Ottawa Ontario KIG 3H6, Canada
(613(998-4931

Charts and Maps of Lower Mississippi River (Gulf of Mexico to Ohio River and St.Francis, White, Big Sunflower, Atchafalaya, and other rivers):

U.S. Army Corps of Engineers, Vicksburg District
P.O. Box 2004, Rock Island, Illinois 61204 (601) 634-5000

Charts of Upper Mississippi River and Illinois Waterway to Lake Michigan:

U.S. Army Corps of Engineers, Vicksburg District
P.O. Box 60, Vicksburg, Mississippi 39180, (309) 788-6412

Charts of Missouri River: U.S. Army Corps of Engineers, Omaha District 6014 U.S. Post Office and Courthouse, Omaha, Nebraska 68102
Charts of Ohio River: U.S. Army Corps of Engineers, Ohio River Division P.O. Box 1159, Cincinnati, Ohio 45201 (513) 684-3002
Charts of Tennessee Valley Authority Reservoirs, Tennessee River and Tribs: Tennessee Valley Authority, Maps and engineering Section 416 Union Avenue, Knoxville Tennessee 37902 (615) 632-2921
Charts of Black Warrior River, Alabama River, Tombigbee River, Apalachicola River and Pearl River: U.S. Army Corps of Engineers, Mobile District P.O. Box 2288, Mobile, Alabama 36628-0001 (205) 690-2511
The average slope of the river may be obtained from topographic maps: U.S. Geological Survey, Map Distribution Federal Center, Bldg 41, Box 25286, Denver Colorado 80225
Additional information can be obtained from the following sources: The State Department of Natural Resources A knowledgeable local marine operator A knowledgeable local water authority (i.e. State Water Commission)

TABLE 4-A-5: SPECIFIED TIME INTERVAL

	Higher Volume Port Areas and Great Lakes	Other Areas
Shoreline and Inland	12 Hour arrival + 3 hour deployment = 15 hours	24 hours + 3 hour deployment = 27 hours
Rivers	12 hours + 3 hour deployment = 15 hours	24 hours + 3 hour deployment = 27 hours

EXAMPLE OF THE PLANNING DISTANCE CALCULATION

The following example provides a sample calculation using the planning distance formula for a facility discharging into the Monongahela River.

1) Solve for v by evaluating n, r, and s for the Chezy-Manning equation:

n = .035 from Table A-3 for a regular section of a major stream with a top width greater than 100 feet. The top width of the river can be found from the topographic map.

s = 1.3×10^{-4} where A = 727 feet, B = 710 feet, and C = 25 miles.

Solving:

[(727 ft - 710 ft)/25 miles] x [1 mile/5280 ft] - 1.3×10^{-4}

r = 13.33 feet. The average mid channel depth is found by averaging the mid channel depth for each mile along the length of the river between the facility and the drinking water intake or the environmentally sensitive area (or 20 miles downstream if applicable). This value is multiplied by .667 to obtain the hydraulic radius. The mid channel depth is found on the chart of the Monongahela River.

Solving:

r = .667 x 20 feet = 13.33 feet

Solve for v using

$v = 1.5/n \times r^{2/3} \times s^{1/2}$

$v = [1.5/.035] \times (13.33)^{2/3} \times (1.3 \times 10^{-4})^{1/2}$

v = 2.73 feet/second

2) Find t from Table A-5. For the Monongahela River, the resource response time is 27 hours.

3) Solve for planning distance, d:

d = v x t x c

(2.73 ft/sec) x 27 hours) x (.68 sec mile/hr ft)

d = 50 miles

Therefore, 50 miles downstream is the appropriate planning distance for this facility.

OIL TRANSPORT ON STILL WATER

For bodies of water including lakes or ponds which do not have a measurable velocity, the spreading of the oil over the surface must be considered.

The following analysis provides an example of how to calculate the planning distance. This example uses a worst case discharge of 2,000,000 gallons.

The surface area covered by a spill on still water, A1, can be determined by the following formula, where V is the volume of the spill in gallons:

$A1 = 10^5 \times V^{3/4}$

$V = 2{,}000{,}000 \text{ gallons} \times .13368 \text{ ft}^3/\text{gallon} = 267{,}360 \text{ ft}^3$

$A1 = 10^5 \times (267{,}360)^{3/4}$

$A1 = 1.18 \times 10^9 \text{ ft}^2$

This spreading formula is based on the theoretical condition that the oil will spread uniformly in all directions forming a circle. In reality, the outfall of the discharge will direct the oil to the surface of the water where it intersects the shoreline. Although the oil will not spread uniformly in all directions, we will assume that the discharge will spread from the shoreline into a semi-circle **(this assumption does not account for wind or wave action).**

Area of a Circle = $3.14 \times r^2$

To account for the assumption that the oil will spread in a semi-circular shape, the area of a circle is divided by 2 and is designated as A2.

$A2 = (3.14 \times r^2)/2$

Solving for the radius, r, using the relationship A1 = A2

$1.18 \times 10^9 \text{ ft}^2 = (3.14 \times r^2)/2$

r = 27,404 ft

27,404 ft/5280 ft/mile = **5.2 miles**

Assuming a 20 knot wind under storm conditions:

1 knot = 1.15 miles/hour

20 knots x 1.15 miles/hour/knot = 23 miles/hr

Assuming that the oil slick moves at 3% of the wind's speed:

23 miles/hour x .03 = .69 miles/hour

To estimate the distance that the oil will travel, use the time required for response resources to arrive at different geographic locations according to Table 4-A-5.

For Higher Volume Port Areas and Great Lakes:

15 hrs x .69 miles/hr = 10.4 miles (wind effect)

The total distance that the oil will travel from point of release:

Higher Volume Port Areas and Great Lakes: 10.4 (wind effect) + 5.2 (spreading) miles or approximately 16 miles spread from point of release.

For other areas: 27 hrs x .69 miles/hr = 18.6 miles (wind effect)

The total distance for other areas: 18.6 (wind effect) + 5.2 (spreading) miles or approximately 24 miles spread from point of release.

OIL TRANSPORT OVER LAND

Facilities must evaluate the potential for oil to be transported over land to waters of the U.S. You need to evaluate the likelihood that portions of a worst case discharge would reach navigable waters via open channel flow or from sheet flow across the land. Certain topographical features and man-made features such as storm drains or open channels may provide a path for the oil to reach navigable water.

As discharged oil travels over land, it may enter a storm drain or open concrete channel intended for drainage. An evaluation of the flow of oil in concrete pipes or channels reveals that the travel time through the length of the drain is virtually instantaneous. For this reason, we assume that once oil reaches such an inlet, it will flow into the navigable water. During a storm event, it is highly probable that the oil will either flow into the drainage structures or follow the natural contours of the land and flow into navigable water. Expected minimum and maximum velocities are provided as examples of open channel and pipe flow. The ranges listed below reflect minimum and maximum velocities used as

design criteria. This shows that the time required for oil to ravel through a storm drain or open channel to navigable water is negligible and can be considered instantaneous. The velocities used for calculating oil transport over land are as follows:

For open channels

maximum velocity = 25 feet per second
minimum velocity = 3 feet per second

For storm drains

maximum velocity = 25 feet per second
minimum velocity = 2 feet per second

Assuming a length of 1/2 mile (2,640 ft) from the point of discharge through a open concrete channel or concrete storm drain to a navigable water, the travel times (distance/velocity) are:

1.8 minutes at a velocity of 25 feet per second

14.7 minutes at a velocity of 3 feet per second

22.0 minutes at a velocity of 2 feet per second

As a rule of thumb, a facility needs to calculate the planning distance for transport of oil on navigable waters if the facility is located:

1) within 1/2 mile of a navigable water

2) at a distance greater than 1/2 mile from a navigable water but are in close proximity to Environmentally Sensitive Areas

3) at a distance greater than 1/2 mile from a navigable water but within 1/2 mile of storm drains or concrete channels connected to navigable water

Storms drains or concrete drainage channels that are located in close proximity to the facility provide a direct pathway to navigable waters. Other factors to be considered in assessing oil transport over land to sensitive areas and drains include topography of the surrounding area, drainage patterns, man-made barriers (excluding secondary containment structures), and soil distribution and porosity.

CHAPTER 5. DISCHARGE SCENARIOS

5.1 TIERED RESPONSE PLANNING. As proposed in 40 CFR 112.20(h)(5) and in 33 CFR 150,154.1028, facility owners or operators are required to provide a discussion of one or more discharge scenarios. The EPA recommends a tiered approach because the response actions to a spill are dependent on the magnitude of the spill. Planning for several discharge sizes better prepares the facility and contractor personnel to respond quickly to a broad range of discharges.

EPA has identified three tier levels:

1. Worst case discharge
2. Medium case discharge
3. Small case discharge

This tiered response planning by facilities that are determined to have the potential to cause "substantial harm" to the environment will help ensure protection of public health and welfare and the environment by facilitating effective response to discharges to navigable waters or adjoining shorelines.

The EPA concluded that a plan only for a response to a worst case discharge would not necessarily be effective in a response to a lesser discharge and that lesser discharges may pose a serious threat to navigable waters. Over 70% of all spills reported to the Federal government in 1989 and 1990 were less than 100 gallons (2.4 bbls) and over 90% were less than 1,000 gallons (24 bbls). Preparing for an appropriate response to such smaller spills could lead to better overall protection of the nation's waters. In addition, various sizes of discharges could require different types and amounts of equipment, products, and personnel. Planning for various levels of spills would allow facility owners or operators to begin to respond to any size discharge prior to the arrival of personnel and resources under contract with the facility and would provide insight into the most likely spill situations and should reveal many potential problems that could surface during actual discharges. Planning for these problems would enable facility or contractor response personnel to respond quickly and appropriately to a range of spill events.

Although not all facilities are required to develop three different discharge scenarios, planning for lesser discharges is necessary because the nature of the response may be qualitatively and quantitatively different depending on the spill size.

If your facility is required to also submit a pipeline response plan to RSPA, as outlined in chapter 1, refer to appendix "RSPA" for additional requirements that must be included in your facility response plan.

5.2 DESCRIPTION OF PROBABLE DISCHARGE SCENARIOS. For each discharge amount you determine to be appropriate, you should provide a written description of how a spill would develop. The process of scenario development is sequential, i.e., once you have determined the discharge amounts and likely pathways, you can begin to evaluate the likelihood of such events and their potential impacts. When developing your scenarios, you should consider all the operations that take place at the facility and key components similar but not limited to the following:

- Loading and unloading of surface transportation
- Facility maintenance
- Facility piping
- Pumping stations and sumps

- Storage tanks

- Vehicle refueling

- Age and condition of facility and operations

Scenario descriptions should also include factors that affect the response efforts required by the base.

- Size of spill

- Proximity to down gradient wells, waterways and drinking water intakes

- Proximity to environmentally sensitive areas

- Likelihood that the discharge will travel offsite and the direction of flow (i.e., drainage and topography)

- Location of spill (on a concrete pad or directly on the soil)

- Material discharged

- Weather/aquatic conditions (i.e., river flow)

- Available remediation equipment

- Probability of a chain reaction of failures

- Direction of spill pathway

Attachment C to this chapter provides a sample written description of a worst-case discharge scenario.

5.3 DETERMINING WHICH DISCHARGE SCENARIOS APPLY (EPA) All "substantial harm" facilities must plan for a worst case discharge. Smaller facilities, however, may not need to develop three separate scenarios since the difference between worst-case, medium, and small discharges may be insignificant. Determining which discharge scenario applies is a three step process:

1. Calculation of the worst-case discharge volume

2. Calculation of medium and small discharge planning volumes

3. Selection of the appropriate planning quantities

5.3.1 Calculation of the Worst-Case Discharge Volume. Attachment 5-A to this chapter is a worksheet and flowchart which will help you determine your worst case discharge. Attachment 5-B provides sample worst case calculations. The worksheets take into account facility specific considerations, including the use of secondary containment and proximity to navigable waters. Attachment 5-C provides sample discharge scenarios. The following specific information is required to complete the worksheets:

- Is the base a single tank facility?

- Largest above ground storage tank capacity?

- Do all above ground tanks have secondary containment?

- Total above ground storage capacity at the command?

- Is the nearest opportunity for discharge adjacent to a navigable water?

5.3.2 Calculation of Medium and Small Discharge Planning Volumes. Definitions for medium and small discharges as defined in 40 CFR 112.20(h)(5)(i)(B) and (C) are summarized below:

- Medium spill -- Any spill volume greater than 2,100 gallons (50 bbl) and less than or equal to 36,000 gallons (857 bbl), or 10% of the capacity of the largest tank at the facility, whichever is less, but not to exceed the worst case-case discharge.

- Small spill -- Any spill volume less than or equal to 2,100 gallons (50 bbl), but not to exceed the calculated worst-case discharge.

> A facilities largest aboveground storage tank volume is 90,000 barrels (3.78 million gallons). Ten percent of this capacity is 378,000 gallons (9000 bbl). Because 36,000 gallons (857 bbl) is less than 10% of the facilities largest aboveground storage tank volume, 36,000 gallons (857 bbl) is used as the planning volume for a medium discharge.

5.3.3 Selection of Appropriate Planning Quantities. To determine which discharge volumes you should plan for, decide which section below applies to your facility.

- You should plan for all three amounts if the volume of your worst case discharge is greater than the volume of your medium spill

- You should plan for both the worst-case discharge and a small discharge if the volume of your worst-case discharge is greater than the volume of a small discharge, but less than a medium discharge, (e.g., 36,000 gallons (857 bbl))

- You should plan for only the worst-case discharge if your worst-case discharge is less than the volume for a small spill (e.g., 2,100 gallons (50 bbl)).

5.4 MARINE TRANSPORTATION RELATED FACILITIES If your facility is also classified as an MTR facility as determined using the flowchart in chapter 1, the following requirements also apply to your facility response plan; compute the average most probable, maximum most probable and worst case discharge using the guidelines outlined below. After calculating these discharge quantities, compare those numbers with the values calculated in section 5.3.1 and 5.3.2. Choose the larger values and use them as your final discharge volumes in your plan implementation, chapter 7.

5.4.1 Calculation of the Worst Case Discharge Volume. Attachment 5-D to this chapter is an example which will help you determine your worst case discharge.

The Coast Guard is concerned about the worst case discharge that could reasonably happen from the MTR facility or the dock and piping used to convey oil to the non-transportation portion of the facility. The worst case discharge scenario accounts for the time to detect the spill and the time to secure the operation. It also accounts for the residual oil that remains in the piping after the operation has been shut down. The following information will help in determining

the worst case discharge and preparing a worst case scenario:

- Length, diameter and flow rate of piping used to transport fuel
- Location of shutoff valves
- Rerouting junction/valve boxes
- Nearest opportunity for discharge
- Time to secure pumping operations
- Do any pipelines have secondary containment?

The Coast Guard's definition is broken down into two areas:

(1) The loss of the entire capacity of all in-line and breakout tanks needed for the continuous operation of the pipelines used for the purposes of handling or transporting oil, in bulk, to or from a vessel;

(2) The discharge from all piping carrying oil between the marine transfer manifold and the non-transportation related portion of the facility.

The discharge from each pipe is calculated as follows:

$D = (T + t)*F + LD$

D = Discharge from each pipe
T^1 = Maximum time to discover the release from the pipe in hours
t^1 = maximum time to shut down flow from the pipe in hours
F = Maximum flow rate in barrels per hour (bbls/hr)
LD = Total line drainage volume in barrels between the marine manifold and the non-transportation portion of the facility

1. Based on historical discharge data or the best estimate from the facility operator

NOTE: If there is more than one pipe, calculate "D" for each pipe then add them together.

The volume of a circular pipe is: Pipe Length*(Diameter^2*.785)

The worst case discharge volume equals (1) + (2).

5.4.2 Calculation of the Maximum Most Probable and Average Most Probable Discharge Planning Volume. The definitions are summarized below:

- Maximum Most Probable Discharge -- 1,200 barrels (50,400 gallons) or 10% of the worst case discharge, whichever is less.
- Average Most Probable Discharge -- 50 barrels (2,100 gallons) or 1% of the worst case discharge, whichever is less.

The facility's worst case discharge volume is 20,000 barrels. Ten percent of this is 2,000 barrels. Since this is greater than 1,200 barrels, 1,200 barrels are use as the planning volume. The effective daily recovery capacity must be 50% of this or 600 barrels per day. The ability of oil recovery devices to meet this capacity will be calculated using the procedures in section 7.2.6. Temporary storage capacity available on scene must equal twice the required daily recovery rate or 1,200 barrels per day.

ATTACHMENT 5-A: DETERMINATION OF A WORST-CASE DISCHARGE

Owners and operators are required to complete this worksheet if they have determined that their facility could cause substantial harm to the environment. The calculation of a worst case discharge is used for emergency planning purposes, and is required for facility owners and operators who must prepare a response plan. When planning for the amount of resources and equipment necessary to respond to the worst case discharge planning volume, adverse weather conditions should be taken into consideration. Owners and operators are required to determine a facility's worst-case discharge. This worksheet integrates a facility's use of secondary containment and its proximity to navigable waters.

For onshore storage facilities, permanently manifolded tanks are defined as tanks that are designed, installed, and/or operated in such a manner that the multiple tanks function as one storage unit. In a worst case discharge scenario, a single failure could cause the release of the contents of more than one tank. The owner or operator must provide evidence in the response plan that tanks with common piping or piping systems are not operated as one unit. If such evidence is provided and is acceptable to the RA, the worst case discharge volume would be based on the capacity of the largest tank within a common secondary containment area or the largest tank within a single secondary containment area, whichever is greater. For permanently manifolded tanks that function as one storage unit, the worst case discharge would be based on the combined storage capacity of all manifolded tanks or the capacity of the largest single tank within a secondary containment area, whichever is greater. For purposes of this determination, permanently manifolded tanks that are separated by internal divisions for each tank are considered to be single tanks and individual manifolded tank volumes are not combined.

WORST CASE DISCHARGE CALCULATIONS FOR ONSHORE STORAGE FACILITIES

Complete the following worksheet if you have determined that your facility could cause substantial harm to the environment by self-selection or RA determination as presented earlier in this report.

Part 1. Single Tank Facilities

For facilities containing only one above ground storage tank, the worst case volume equals the capacity of the storage tank.

- **Final Worst Case Volume:**

  _____ Gallons

- Do not proceed further.

Part 2. Secondary Containment - Multiple Tank Facilities

Are all aboveground storage tanks or groups of aboveground storage tanks at the facility without adequate secondary containment? _____ **(Y/N)**

a. If the answer is yes, the final worst case volume equals the total

aboveground oil storage capacity at the facility.

- **Final Worst Case Volume:**

  _____ Gallons

- Do not proceed further.

b. If the answer is no, calculate the total aboveground capacity of tanks without adequate secondary containment. If all aboveground storage tanks or groups of aboveground storage tanks at the facility have adequate secondary containment, ENTER "0" (zero). _____ **Gallons**

- Proceed to question 3.

Part 3. Distance to Navigable Waters

a. Is the nearest opportunity for discharge (i.e., storage tank, piping, or flowline) adjacent to a navigable water? __**(Y/N)**

b. If the answer is yes, calculate 110% of the capacity of the largest single aboveground storage tank within a secondary containment area or 110% of the combined capacity of a group of aboveground storage tanks permanently manifolded together, whichever is greater, PLUS THE VOLUME DETERMINED IN QUESTION 2b.

- **Final Worst Case Volume:**

  _____ Gallons

- Do not proceed further.

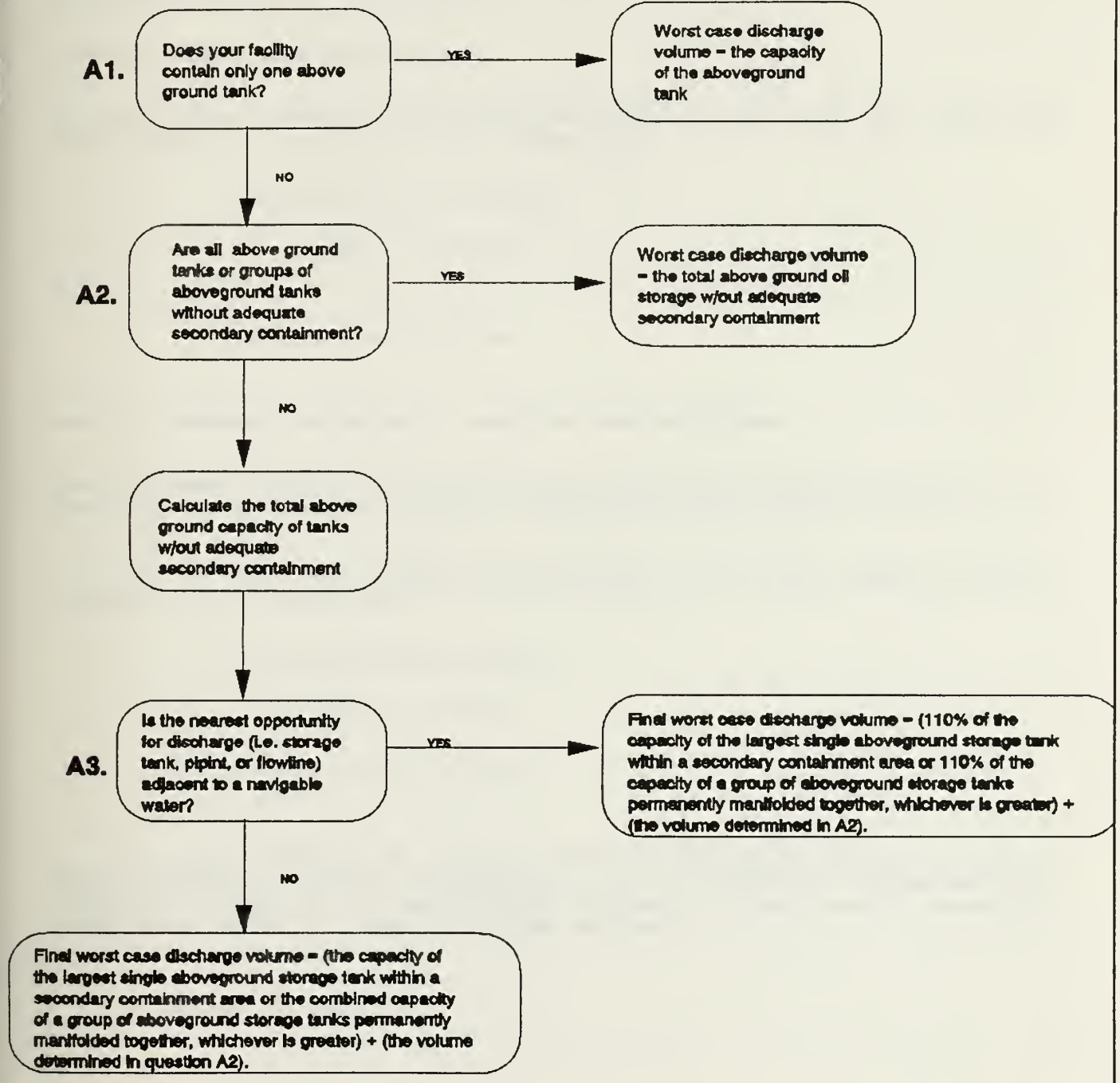
c. If the answer is no, calculate the capacity of the largest single aboveground storage tank within a secondary containment area or the combined capacity of a group of aboveground storage tanks permanently manifolded together, whichever is greater, PLUS THE VOLUME FROM QUESTION 2b.

- **Final Worst Case Volume:**

  _____ Gallons

- Do not proceed further.

FLOWCHART TO DETERMINE WORST CASE DISCHARGE FOR A STORAGE FACILITY


A1.
Does your facility contain only one above ground tank?
YES
Worst case discharge volume = the capacity of the aboveground tank
NO
A2.
Are all above ground tanks or groups of aboveground tanks without adequate secondary containment?
YES
Worst case discharge volume = the total above ground oil storage w/out adequate secondary containment
NO
Calculate the total above ground capacity of tanks w/out adequate secondary containment
A3.
Is the nearest opportunity for discharge (i.e. storage tank, pipint, or flowline) adjacent to a navigable water?
YES
Final worst case discharge volume = (110% of the capacity of the largest single aboveground storage tank within a secondary containment area or 110% of the capacity of a group of aboveground storage tanks permanently manifolded together, whichever is greater) + (the volume determined in A2).
NO
Final worst case discharge volume = (the capacity of the largest single aboveground storage tank within a secondary containment area or the combined capacity of a group of aboveground storage tanks permanently manifolded together, whichever is greater) + (the volume determined in question A2).

ATTACHMENT 5-B: EXAMPLE - DETERMINING THE WORST-CASE DISCHARGE VOLUME

A base with a total of 270,000 barrel (11.3 million gallons) storage capacity for JP-5 is located in a high volume port area. The base is on a peninsula and has docks on both the ocean and bay side. The base has four aboveground storage tanks with a combined total capacity of 80,000 barrels (3.36 million gallons) and no secondary containment. The remaining tanks are inside secondary containment structures. The largest aboveground storage tank is 90,000 barrels (3.78 millon gallons) and has its own secondary containment. Two 50,000 barrel (2.1 million gallons) tanks that are not connected by a manifold are within a common secondary containment tank area, which is capable of holding 100,000 barrels (4.2 million gallons) plus sufficient freeboard.

Part 1. Single Tank Facilities

For facilities containing only one above ground storage tank, the worst case volume equals the capacity of the storage tank.

- **Final Worst Case Volume:**

  N/A Gallons

- Do not proceed further.

Part 2. Secondary Containment - Multiple Tank Facilities

Are all aboveground storage tanks or groups of aboveground storage tanks at the facility without adequate secondary containment? **N** **(Y/N)**

a. If the answer is yes, the final worst case volume equals the total aboveground oil storage capacity at the facility.

- **Final Worst Case Volume:**

  N/A Gallons

- Do not proceed further.

b. If the answer is no, calculate the total aboveground capacity of tanks without adequate secondary containment. If all aboveground storage tanks or groups of aboveground storage tanks at the facility have adequate secondary containment, ENTER "0" (zero). **3,360,000 Gallons**

- Proceed to question 3.

Part 3. Distance to Navigable Waters

a. Is the nearest opportunity for discharge (i.e., storage tank, piping, or flowline) adjacent to a navigable water? Y (Y/N)

b. If the answer is yes, calculate 110% of the capacity of the largest single aboveground storage tank within a secondary containment area or 110% of the combined capacity of a group of aboveground storage tanks permanently manifolded together, whichever is greater, PLUS THE VOLUME DETERMINED IN QUESTION 2b.

- **Final Worst Case Volume:**

  7,520,000 Gallons

  (3,360,000 gallons outside secondary containment from question 2b + [1.1*3,780,000)

- Do not proceed further.

c. If the answer is no, calculate the capacity of the largest single aboveground storage tank within a secondary containment area or the combined capacity of a group of aboveground storage tanks permanently manifolded together, whichever is greater, PLUS THE VOLUME FROM QUESTION 2b.

- **Final Worst Case Volume:**

  N/A Gallons

- Do not proceed further.

In this example, our facility has several (more than one) aboveground storage tank (Part 1), some the aboveground storage tanks are not within secondary containment (Part 2), and the total aboveground capacity of tanks without adequate secondary containment is 3.36 million gallons (Part 2b). The nearest opportunity for discharge is adjacent to a navigable waterway (Part 3a), and the final worst case discharge volume = 7.52 million gallons (3.36 + 1.1*3.78), (Part 3b).

For one or more independent aboveground storage tanks within a secondary containment area, this amount is simply 110% of the capacity of the largest tank. Permanently manifolded tanks are defined as tanks that are designed, installed, and/or operated in such a manner that the multiple tanks function as one storage unit. The owner or operator must provide evidence in the response plan that tanks with common piping or piping systems are not operated as one unit. If such evidence is provided and is acceptable to the EPA or RA, the worst case discharge volume would be based on the capacity of 110% of the largest tank within a common secondary containment area or 110% of the largest tank in a single containment area, whichever is greater. For permanently manifolded tanks that function as one storage unit, the worst case discharge volume would be based on 110% of the combined storage capacity of all manifolded tanks or 10% of the largest single tank within a secondary containment area, whichever is greater. For purposes of this determination, permanently manifolded tanks that are separated by internal divisions for each tank are not considered to be single tanks and individual manifolded tank volumes are not combined.

If this volume is greater than the total aboveground storage capacity of the facility, the final worst-case discharge volume is the lesser of these two volumes.

ATTACHMENT 5-C: DISCHARGE SCENARIOS

SAMPLE WORST CASE DISCHARGE SCENARIO

For the past several days, heavy rains have caused substantial runoff, erosion and small flash floods. During the night, the foundation under TANK A-1 (3.78 million gallons) eroded away causing a failure in a wall joint. The tank ruptured releasing its entire content of JP-5. The "flash flood" of fuel broke through the secondary containment dike cutting a channel to a natural contour drainage ditch.

The contours run slightly downhill towards the bay side. Most of the fuel follows the natural grade but due to the heavy rains and amount of fuel, the ground is saturated and thousands of gallons flow over the land to the storm drain located next to the pier side refueling station.

In a matter of minutes the fuel has entered the bay, but due to the darkness, a sheen is not immediately detectable. The roving security patrol notices a severe stench in the area and begins to investigate. Soon he finds the river of fuel and reports it to the Quarterdeck.

SAMPLE SMALL CASE DISCHARGE SCENARIO

Between the CPO Club and the Fuels Division Office, there are two used fuel oil tanks. These tanks are used primarily for holding used oil (a mixture of various used lubricating oils and contaminated fuels) pending testing for hazardous substances. They rarely hold more than 3000 gallons total since the oil is burned at Steam Plant 1 soon after testing.

Internal corrosion had weakened a seam of the southern tank and it failed without warning late at night in November. There was one inch of snow on the ground, the temperature was 22 degrees F, and more snow was predicted the following day. The entire contents, 1800 gallons, leaked out, but only 900 gallons was retained in the crushed rock berm. About half of the escaping oil goes west and pools in low areas and ditches beside the road. The other half goes east towards Sandy Cove. Of the portion flowing east, half is trapped in low areas and half reaches the water. The result is about 225 gallons of used oil in the water and about 225 gallons on land.

The cove is a relatively narrow body swept by constant 15-20 knot winds. A minor discharge of the relatively viscous fluid has little chance of proceeding out the centerline to enter the Bay. In this case, a southerly wind and incoming tide combine to stack the oil in the northeast corner of the cove. On spreading, about 10% of the oil volatilizes, and wave action, particularly against the shoreline boulders, turn the remaining heavier oil to chocolate mousse. By morning the boulders from the shore adjacent to the tank north to the mouth of South Sandy Cove and east about 600 feet are irregularly covered with mousse. volatilization of lighter ends in the mousse is still occurring, causing a sheen on the water within 20 feet of the boulders.

ATTACHMENT 5-D: WORST CASE DISCHARGE EXAMPLE FOR A COAST GUARD MTR FACILITY

A facility receives oil from barges via a dock located on a bay and transported by piping to storage tanks. The facility handles #2 fuel oil (specify gravity .96) and stores the oil in tanks where it is held prior to being burned in an electric generating plant. The MTR segment of the facility has six 18 inch diameter pipelines running one mile from the dock side manifold to several storage tanks which are located in the non-transportation related portion of the facility. Although the facility piping has a normal working pressure of 100 pounds per square inch, the piping has a maximum allowable working pressure (MAWP) of 150 psi. At MAWP, the pumping system can move 10,000 barrels (bbls) of #2 oil every hour through each pipeline. The facility has a roving watchman who is required to drive the length of the piping every two hours when the facility is receiving oil from a barge. The facility operators estimates that it will take approximately 10 minutes to secure pumping operations when a discharge is discovered. Using the definition of a worst case discharge in section 5.4.1, the following calculation is provided:

$D = (T+t)*F + LD$

$D = (2 \text{ hours} + (10/60)\text{hours}) * 10{,}000 \text{ bbls/hr} + (5280 \text{ ft} * (1.5 \text{ ft})^2 * .785)$

$D = 21{,}700 \text{ bbls} + 9326 \text{ ft}^3/(5.6 \text{ bbls/ft}^3)$

Discharge Volume per Pipe = 23,365 bbls/pipe

Worst Case Discharge From MTR Facility = 6*(23,365) = **140,190 bbls**

CHAPTER 6. DISCHARGE DETECTION SYSTEMS

6.1 INTRODUCTION. The Facility Response Plan must include a description of the facility procedures and equipment used to detect discharges, both during and after normal working hours. Discharge detection may be performed either by personnel or by automated systems or a combination of both. Detection of leaks by personnel includes integrity testing and regular inspections. Automated systems require minimal human intervention, but also need to be inspected regularly to verify proper operation.

6.2 DISCHARGE DETECTION BY PERSONNEL. Discharge detection by personnel should be a combination of testing and inspection programs. Testing allows facilities to check on specific areas of concern, while a rigorous inspection program ensures early detection of a wide range of potential problems.

Fully describe the procedures followed for all fuel handling and storage discharge detection equipment.

The various testing and inspection options are discussed below. Although it is not an all-inclusive list, it will help familiarize you with current techniques.

6.2.1 Testing.

6.2.1.1 Integrity Testing. One testing method that should be considered as part of a long-term discharge detection program is tank integrity testing. Integrity testing is required every 10 years and when material repairs are done for onshore bulk storage tanks (excluding production facilities) that do not have adequate secondary containment. Proposed revisions to the oil pollution prevention regulations would require integrity testing of tanks every 5 years, at a minimum, and integrity and leak testing of valves and piping every year, at a minimum, for facilities that do not have adequate secondary containment. Techniques such as radiographic, ultrasonic, or acoustic emissions testing may be used to test the integrity of aboveground tanks. Visual inspections only are not considered to be sufficient for an integrity test, but should be used in combination with the above techniques.

The American Petroleum Institute (API) publishes documents which describe industry standards for integrity testing of aboveground storage tanks. Documents can be ordered from API at (202) 682-8375:

- API Standard 620, *Design and Construction of Large, Welded, Low-Pressure Storage Tanks;*
- API Standard 650, *Welded Steel Tanks for Oil Storage;*
- API Recommended Practice (RP) 651, *Cathodic Protection of Above-Ground Petroleum Storage Tanks;*
- API RP 652, *Lining of Aboveground Petroleum Storage Tank Bottoms;*
- API Standard 653, *Tank Inspection, Repair, Alteration, and Reconstruction;*
- API Standard 2000, *Venting Atmospheric and Low-Pressure Storage Tanks (Nonrefrigerated and Refrigerated);* and
- API*'s Guide for Inspection of Refinery Equipment.*

6.2.1.2 External Tests. In addition to integrity tests, there are other types of tests that can identify problem areas and reduce the probability that leaks go undetected. Some of the external tests are described below.

Pressure and Vacuum Testing. Pressure tests, such as hydrostatic tests, consist of filling a vessel with liquid or gas and building up an internal pressure to a desired level. When the tank is under pressure, the external surfaces can be examined thoroughly for leaks and signs of deformation.

Volumetric Precision Tests. Using suitable sensors, periodic measurements of the liquid level in the tank are recorded. Because special preparations are required, the test is usually conducted on a one-time basis rather than continuously.

Inventory Control. The oil volume added or removed is obtained from flow-meters installed in piping associated with the tank. This information is compared with a detailed record of the amount of product added to or dispensed from the tank.

Acoustic Emissions. Acoustic emissions use an array of transducers to locate a leak by identifying areas of high acoustic energy (i.e., small pressure fluctuations developed by the fluid as it leaks though a small hole in the bottom of the tank). A sound-level map of the tank floor is created and regions in which significant clustering of impulsive signals are found can be interpreted as possible leak locations.

Tracer Methods. Tracer methods will identify a leak if the trace compound is detected in the soil gas.

Other Methods. Other less common options for external tests include: magnetic-particle method, dye penetrant method, radiograph analysis, and surface-etching method.

6.2.2 Inspections. Regular equipment inspections should be a part of the discharge detection system. Inspections would include:

- Bulk storage tanks for deterioration and maintenance needs; and
- Aboveground valves, piping, and appurtenances used for facility transfer and pumping operations.

Inspections should consist of internal and external inspections.

6.2.2.1 External Inspections. API Standard 653 recommends routine in-service inspections and scheduled, formal inspections.

Routine In-Service Inspection. Routine in-service inspections identify problems as they develop. API Standard 653 recommends:

- In-service visual inspection should occur monthly, if not more frequently, depending upon site conditions; and
- The inspection should include a visual examination of the tank's exterior surface, specifically to check for: leaks, shell distortions, signs of settlement, corrosion and condition of the foundation, paint coatings, insulation systems, and appurtenances.

If an aboveground storage tank has a double bottom, the installation of a tell-tale drain will enhance the effectiveness of visual inspections. A tell-tale drain is a small pipe that drains the void spaces between the double bottom. It diverts any leak in the inner bottom of a tank to a location where it can be readily observed from the outside of the tank (usually a secondary containment area). Once a leak is discovered, the

tell-tale drain valve can be shut to stop the leak and the tank repaired.

If the aboveground storage tank does not have a double bottom, the tank can be placed on a concrete foundation with an inlaid radial grid, which allows leaks to drain into a secondary containment area where it can be seen.

Scheduled, Formal Inspections. Scheduled formal inspections are thorough investigations which identify potential problems, such as severe corrosion, that could lead to leaks in the future. API Standard 653 recommends the following:

- All tanks shall be given a formal visual external inspection at least every 5 years or at the quarter corrosion-rate life of the shell.
- Where exterior tank bottom corrosion is controlled by a cathodic protection system, periodic surveys of the system should be conducted in accordance with API RP 651.

6.2.2.2 Internal Inspections. Internal inspections ensure that the tank bottom is not severely corroded and leaking. Minimum bottom and thickness assessments that are described in API 653 can also by conducted. These assessments are required to evaluate the suitability of an existing tank for continued service or for a change or service, or when repairing, altering, or dismantling and relocating or reconstructing an existing tank. Inspection intervals should be determined by corrosion rates measured during previous inspections or anticipated based on experience with tanks in similar service. In no case should the internal inspection interval exceed 20 years.

****SAMPLE***SAMPLE***SAMPLE***SAMPLE***SAMPLE***SAMPLE***SAMPLE***SAMPLE****

A sample plan for discharge detection by personnel follows:

Sample Plan

A bulk storage facility maintains five 50,000 gallon tanks and five 100,000 gallon tanks that store gasoline. Facility owners and operators conduct regular visual and formal inspections and have automated detection systems in place.

External Inspections

Informal: The facility conducts daily visual inspections at the beginning of each shift. Tell-tale drains are installed beneath each tank and the shift personnel check for leaks into the secondary containment area. If a leak is detected, the tell-tale valve is shut to stop the leak. Once the leak has been isolated, arrangements are made to remove the tank from service so that repairs can be made, and the released product is conducted. Each tell-tale drain valve is checked to ensure that it is in the open position. A record of each shift's inspections is kept in a log book that is maintained by the shift supervisor. The transfer records are also used to track the inventory as a means of determining whether liquid is being lost over time. The shift supervisor is responsible for inventory reconciliation. The site engineer is responsible for analysis of the trends in the monthly inventory reports. If a serious leak is detected, the "Qualified Individual" is contacted to determine the appropriate plan of action.

On a monthly basis, a thorough external examination of each tank is conducted. The checklist provided in Appendix C to API Standard 653 (Checklist for Tank Inspection) is used as a guideline for conducting the investigation. A formal checklist is used for each area investigated and all of these records

are maintained with the SPCC Plan.

Formal: A formal external inspection is conducted at least once every 5 years or at the quarter corrosion-rate life of the shell, whichever is less. API Standard 653 is consulted for instruction on the corrosion rate calculation. Ultrasonic thickness measurements are used to assess the corrosion rate and are made according to the schedule recommended by API. The measurements will be taken 5 years after any new tanks are commissioned, as recommended by API. The corrosion rate of existing tanks will be evaluated, and the maximum interval for a formal external inspection will be the smaller of RCR/2N years (where RCR is the remaining corrosion rate in millimeters per year and N is the shell corrosion rate in millimeters per year) or 15 years. Acoustic emissions testing may be used as an initial test for all existing tanks; ultrasonic testing is reserved for those areas of tanks where the acoustic emissions test has indicated potential problems. The testing schedule is staggered so that an equal number of tanks per year are tested. Those tanks with the greatest potential to leak, as determined by acoustic emissions testing, are given priority.

Internal Inspections

Appendix C to API Standard 653 is used as a guideline for conducting out-of-service inspections. The interval for inspection is set so that the bottom plate minimum thickness at the next inspection is not less than the values in Table 4-1 of API Standard 653. The internal inspection interval does not exceed 20 years. The ultrasonic tests are used as a basis for determining the corrosion rate. The suitability of the tank for future service is determined during the out-of-service inspection. Any necessary repairs are scheduled at this time.

Implementation of Inspection Plan

1) All tanks will be evaluated for corrosion problems using acoustic emissions testing (ultrasonic testing if necessary) within a one-year period of enacting this plan. The condition of each tank will be assessed at the time of testing, and those tanks with potential problems will be prioritized for future internal/ultrasonic testing.

2) The formal inspections will be staggered such that an equal number of tanks per year will be tested using acoustic emissions testing and ultrasonic testing, as necessary, to evaluate corrosion problems. Those tanks with highest priority based on the initial testing will be scheduled first.

3) Internal inspections will be conducted as required by problems with leaks or as indicated from the corrosion tests. Each tank will be thoroughly inspected at least once every 20 years.

4) All personnel are trained on the contents of this plan and have been instructed on emergency procedures. Facility personnel are aware that the "Qualified Individual" must be immediately notified in the event of a spill.

****SAMPLE***SAMPLE***SAMPLE***SAMPLE***SAMPLE***SAMPLE***SAMPLE***SAMPLE****

6.3 AUTOMATED DISCHARGE DETECTION. Fully describe automated discharge detection systems installed on fuel handling and storage equipment. Include a description of the automated systems, a discussion of how the reliability of the systems will be checked, and an inspection schedule for the automated systems.

Various types of automated discharge detections systems are described below.

Although it is not an all-inclusive list, it will help familiarize you with current technology.

One or more of the following provisions will normally be found on newer tank installations:

- High-liquid level alarms with an audible or visual signal at a constantly manned operation or surveillance station (or audible air vent at a smaller plant);
- A high-liquid level pump cutoff device set to stop flow at a predetermined tank content level, depending upon the size and complexity of the facility;
- Direct audible or code signal communication between the tank gauger and the pumping station;
- A fast response system for determining the liquid level of each bulk storage tank, such as digital computers, telepulse, or direct vision gauges or their equivalent; and
- Liquid level sensing devices that are regularly tested to ensure proper operation.

Refer to 40 CFR 112.7(e)(2)(viii) or proposed revisions of 22 October 1991, 40 CFR 112.7(a)(2) for specific requirements.

There are a variety of automated leak detection systems available. The type of system used generally varies depending on the type and size of the tank.

For smaller tanks that store between 10,000 and 20,000 gallons, an overfill sump with an alarm can be used. Another strategy for smaller tanks is to slope the floor of the secondary containment area so that the liquid will drain into the corner of the area. At that point, a float switch is triggered and an alarm will sound. The secondary containment area must be covered to prevent precipitation from triggering the alarm. For double-wall or double-bottom tanks, the alarm system is generally placed in the interstitial area. One method consists of hydrocarbon sensitive tape that can be adjusted to any length. When the sensors in the tape are contacted by hydrocarbon product, not by water, an alarm will sound.

Overfill protection devices can be set to stop the flow of product at a predetermined level, such as 90 or 95 percent of the tank capacity. Alternately, the flow can also be restricted at a predetermined time, such as 30 minutes or one minute before the tank is full. Alarms can also be tied into the system so that an audible warning is given. Sensors can be placed in vent pipes, which will sound an alarm to alert the operator if overfill prevention equipment should fail.

****SAMPLE***SAMPLE***SAMPLE***SAMPLE***SAMPLE***SAMPLE***SAMPLE***SAMPLE****

A sample plan for automated discharge detection follows:

Sample Plan

A bulk storage facility maintains five 50,000 gallon tanks and five 100,000 gallon tanks that store gasoline. Facility owners and operators conduct regular visual and formal inspections and have automated detections systems in place. The following overfill protection and discharge detection equipment is installed.

1) At the transfer stations, there are high-liquid level alarms with both

visual and audible signals that are triggered when the tank is 90 and 95 percent full.

2) There is an automatic shut-off device that will stop the flow of liquid when the tank is 95 percent full.

3) Sensors are placed in vent pipes such that an alarm will sound if the overfill prevention equipment should fail. If the automated systems should fail and a spill occurs, the "Qualified Individual" is contacted to determine the appropriate course of action.

4) Operation of the overfill protection and discharge equipment are tested as part of the regular thorough inspection and formal external inspection program.

****SAMPLE***SAMPLE***SAMPLE***SAMPLE***SAMPLE***SAMPLE***SAMPLE***SAMPLE****

CHAPTER 7. PLAN IMPLEMENTATION

7.1 RESPONSE RESOURCES FOR SMALL, MEDIUM AND WORST CASE SPILLS. To comply with this section, the facility owner/operator must:

> Determine the amount of equipment needed to respond to a worst case, medium, and small discharge scenario, as appropriate. Specify through contracts or other approved means that sufficient responses resources are available to respond in case of an oil spill. Describe this equipment using the forms listed in sections 3.2 and 3.3.

The following methods of ensuring the availability of response resources are acceptable:

(1) A written contractual agreement with an oil spill removal organization. The agreement must identify and ensure the availability of specified personnel and equipment required under this chapter within stipulated response times in the geographic areas.

(2) Certification by the facility owner or operator that specified personnel and equipment required under this chapter are owned, operated or under the direct control of the facility owner or operator, and are available within stipulated response times.

(3) Active membership in a local or regional oil spill removal organization that has identified specified personnel and equipment required under this subpart that are available to respond to a discharge within stipulated response times.

(4) A document which identifies the personnel, equipment and services capable of being provided by the oil spill removal organization within the required response times; sets out the parties' acknowledgment that the oil spill removal organization intends to commit the resources in the event of a response; and permits the Coast Guard to verify the availability of the identified response resources through tests, inspections and drills.

If your facility is also classified as an MTR facility (flowchart in the report's chapter 1), the Coast Guard requires that all oil recovery devices and boom must be at least capable of operating in wave heights up to and including the values specified in table 7-11 and that the following percentages of the on-water response equipment identified must be capable of operating in waters of 6 feet or less depth:

> Offshore - 10 percent
> Nearshore/inland/Great Lakes/rivers and canals - 20 percent

Unless noted otherwise, in this chapter a small discharge is the same as an average most probable discharge and a medium discharge is the same as a maximum most probable discharge.

7.1.1 Equipment Needs and Response Times for Small and Medium Discharges

Small Discharges and Average Most Probable Discharge:

Your facility must make the following resources available in the event of a small discharge:

1. 1,000 feet of containment boom or two times the length of the largest vessel that regularly conducts oil transfers to or from the facility, whichever is greater and a means of deploying and anchoring it within 1 hour.

2. Oil recovery devices with an effective daily recovery rate equal to the amount of oil discharged in a small spill. The equipment must arrive at the scene within 2 hours. See table 7-7 to help determine the equipments effective daily recovery rate.

3. Oil storage capacity for recovered oily material equivalent to twice the amount of a small discharge.

Medium Discharges and Maximum Most Probable Discharge:

Your facility must make the following resources available in the event of a medium discharge:

1. Oil recovery devices that arrive on scene within 6 hours in Higher Volume Port Areas and the Great Lakes, and within 12 hours in all other areas. See the lists at the end of this section for definition of" Higher Volume Port Areas" and "Great Lakes."

2. The response plan must identify and ensure, through contract or other approved means, that sufficient quantity of boom would be available within the 6 and 12 hour response times. The amount of boom needed should have been identified in the hazard evaluation section 4.2 and 4.3. The boom length should be enough to protect the environmentally sensitive areas, and pool, contain and collect the oil.

3. The effective daily recovery rate for oil recovery devices must equal 50 percent of the medium discharge planning volume (up to 600 bbl/day).

4. Oil storage capacity for recovered oily material must be equivalent to twice the medium spill volume (up to 2400 bbl).

SPECIFIED TIME INTERVAL FOR MEDIUM DISCHARGES (USCG)

	Higher Volume Port Areas and Great Lakes	Other Areas
Arrival:	6 Hours	12 Hours
Deployment:	3 Hours	3 Hours
Total:	**9 Hours**	**15 Hours**

"Higher Volume Port Areas" include the following:

- Boston, MA
- New York, NY
- Delaware Bay and River, PA
- St. Croix, VI
- Lake Charles, LA
- Sabine-Neeches River, TX
- Galveston Bay and Houston Ship Channel, TX
- Corpus Christi, TX

- Pascagoula, MS
- Mississippi River From Southwest Pass, LA to Baton Rouge, LA
- Louisiana Offshore Oil Port
- Prince William Sound, AK
- Los Angeles/Long Beach Harbor, CA
- San Francisco Bay and Sacramento River, CA
- Straits of Juan de Fuca and Puget Sound, WA
- Others as specified by RA

"Great Lakes" include Lakes Superior, Michigan, Huron, Erie and Ontario Plus their connecting and tributary waters, including:

- The Calumet River as far as the Thomas J. O'Brian Lock and Controlling Works (between mile 326 and 327)

- The Chicago River as far as the east side of the Ashland Ave. Bridge (between mile 321 and 322)

- The Saint Lawrence River as far east as the lower exit of the Saint Lambert Lock

7.1.2 Equipment Needs and Response Times for Worst Case Discharges - Non Transportation Related Facilities This section will help you determine the required effective daily recovery rate.

Equipment Needs

The worksheet following step (6) helps to determine the appropriate amount of response resources for a non-transportation related facility. To complete this worksheet, follow steps (1) - (6).

STEP (1) Determine the following:

- The worst case discharge volume (discussed in Chapter 5)

- Whether the facility is located in a nearshore area, on the Great Lakes or a river or canal

- The appropriate group(s) for the type of oil handled or stored at the facility. Refer to Table 7-1.

TABLE 7-1: OIL PRODUCT GROUPS

	Oil Group
Non-Persistent Oils:	Group 1 Non-persistent oils
Persistent Oils:	Group 2 Light crudes
	Group 3 Medium crudes and fuel
	Group 4 Heavy crudes and fuels

STEP (2) Using the Removal Capacity Planning Table, Table 7-2, and the information gathered in STEP (1), determine the percentages of the total volume required for removal capacity planning. The Removal Capacity Planning Table divides the volume into three categories: oil lost to the environment, oil available for on water recovery, and oil deposited on the shoreline.

TABLE 7-2: REMOVAL CAPACITY PLANNING TABLE

Spill Location	Nearshore/Inland Great Lakes**			Rivers and Canals		
Sustainability of on-water oil recovery	4 days			3 days		
Oil Group	% Natural Dissipation	% Recovered Floating Oil	% Oil Onshore	% Natural Dissipation	% Recovered Floating Oil	% Oil Onshore
1 Non-persistent oils	80	20	10	80	10	10
2 Light Crudes	50	50	30	40	15	45
3 Medium Crudes and fuels	30	50	50	20	15	65
4* Heavy Crudes and fuels	10	50	70	5	20	75

* For planning purposes, non-petroleum oil must be considered a Group 4 persistent oil

** These numbers total over 100% by design

STEP (3) Adjust the on water oil recovery volume and the shoreline cleanup planning volume for response resources using the appropriate emulsification factor found in table 7-3.

TABLE 7-3: EMULSIFICATION FACTORS FOR OIL PRODUCT GROUPS

	Oil Group	Emulsification Factor
Non-Persistent Oils:	Group 1 Non-persistent oils	1.0
Persistent Oils:	Group 2 Light crudes	2.5
	Group 3 Medium crudes and fuel	3.0
	Group 4 Heavy crudes and fuels	1.8

STEP (4) Multiply the adjusted volume by the on water recovery mobilization factor found in table 7-4 to determine the total on water oil recovery capacity in gallons per day that should be identified or contracted for to arrive on scene within the applicable time. See section 7.2.4 for required response tier times.

TABLE 7-4: ON WATER OIL RECOVERY RESOURCE MOBILIZATION FACTORS

ON WATER OIL RECOVERY RESOURCE MOBILIZATION FACTORS			
Area	**TIER 1**	**TIER 2**	**TIER 3**
River	.30	.40	.60
Inland/Nearshore	.15	.25	.40
Note: These mobilization factors are for total resources mobilized, not incremental resources.			

Step (5) Use the resulting on water recovery capacity for each tier to identify response resources necessary to sustain operations in the applicable geographical area. The equipment should be capable of sustaining operations for the time period specified in table 7-2, The Removal Capacity Planning Table.

STEP (6) Identify and ensure the availability of, through contract or other approved means, sufficient oil spill recovery devices to provide the effective daily oil recovery capacity required. Table 7-5 provides a table of Response Capability Caps by Geographic Areas. If the required capacity exceeds the applicable cap specified in this table, then a facility owner/operator should contract only for the quantity of resources required to meet the cap, but should identify sources of additional resources. The owner/operator of a facility whose planning volume exceeds the cap in 1993 should make arrangements for additional capacity to be under contract by 1998. The process should be repeated in 1998 and 2003. For a facility that carries multiple groups of oil, the required effective daily recovery capacity for each group should be calculated before applying the cap.

TABLE 7-5: RESPONSE CAPS

RESPONSE CAPABILITY CAPS BY GEOGRAPHIC AREA			
February 18, 1993	Tier 1	Tier 2	Tier 3
All except rivers & canals, Great Lakes	10,000 bbls/day	20,000 bbls/day	40,000 bbls/day
Great Lakes	5,000 bbls/day	10,000 bbls/day	20,000 bbls/day
Rivers and Canals	1,500 bbls/day	3,000 bbls/day	6,000 bbls/day

February 18, 1998			
All except rivers and canals, Great Lakes	12,500 bbls/day	25,000 bbls/day	50,000 bbls/day
Great Lakes	6,350 bbls/day	12,300 bbls/day	25,000 bbls/day
Rivers	1,875 bbls/day	3,750 bbls/day	7,500 bbls/day
February 18, 2003			
All except rivers and canals, Great Lakes	TBD	TBD	TBD
Great Lakes	TBD	TBD	TBD
Rivers and Canals	TBD	TBD	TBD

Note: The caps show cumulative overall effective daily recovery rate,not incremental increases.

TBD = To be Determined

OPA 90 RESPONSE RESOURCES WORKSHEET FOR NON-TRANSPORTATION RELATED FACILITIES

Part I Background Information

Step (A): Calculate Worst Case Discharge in barrels

(**Calculated in chapter 5**): _____ bbls (A)

Step (B): Oil Group (**Table 7-1**) _____

Step (C): Geographic Area (choose one)

☐ Nearshore/Inland/ Great Lakes

☐ River/Canals

Step (D): Percentages of Oil (**Table 7-2**)

Lost to Natural Dissipation _____ % (D1)

Recovered Floating Oil _____ % (D2)

Oil Onshore _____ % (D3)

Step (E): Recovery (in barrels)

On-Water: $\frac{(D2) \times (A)}{100}$ [bbls] (E1)

On-Shore: $\frac{(D3) \times (A)}{100}$ [bbls] (E2)

Step (F): Emulsification Factor (**Table 7-3**) [ ] (F)

Step (G): On-Water Oil Recovery Resource Mobilization Factor (**Table 7-4**)

Tier 1 [ ] (G1)

Tier 2 [ ] (G2)

Tier 3 [ ] (G3)

Part II On-Water Recovery Planning Capacity (barrels/day)
(Recovery capacity that must be planned for)

Tier 1: (E1) x (F) x (G1) [ ] (H1)

Tier 2: (E1) x (F) x (G2) [ ] (H2)

Tier 3: (E1) x (F) x (G3) [ ] (H3)

Part III Shoreline Cleanup Planning Capacity (barrels/day)
(Cleanup capacity that must be planned for)

(E2) x (F) [ ]

Part IV Response Capacity Caps By Geographic Area (barrels/day)
(Cap on mandatory contracted capacity)
(Table 7-5)

Tier 1		(J1)
Tier 2		(J2)
Tier 3		(J3)

Part V Amount Needed to be Identified, but not Contracted for in Advance (barrels/day)

Tier 1: (H1) - (J1)	
Tier 2: (H2) - (J2)	
Tier 3: (H3) - (J3)	

Note: To convert to gallons/day, multiply barrel/day by 42.
(20 bbls/day) * (42 gallons/bbl) = 840 gallons/day

Refer to the "Oil Spill Response Plan Concepts" for additional information.

7.1.3 **Equipment needs and Response Times for Worst Case Discharges - Coast Guard Marine Transportation Related Facility.** This section will help you determine the required effective daily recovery rate.

Equipment Needs

The worksheet following step (6) helps to determine the appropriate amount of response resources for a Coast Guard MTR Facility. To complete this worksheet, follow steps (1) - (6).

STEP (1) Determine the following:

- The worst case discharge volume (discussed in Chapter 5)
- Whether the facility is located in a nearshore area, on the Great Lakes or a river or canal
- The appropriate group(s) for the type of oil handled or stored at the facility. Refer to Table 7-1.

STEP (2) Using the Removal Capacity Planning Table, Table 7-8, and the information gathered in STEP (1), determine the percentages of the total volume required for removal capacity planning. The Removal Capacity Planning Table divides the volume into three categories: oil lost to the environment, oil available for on water recovery, and oil deposited on the shoreline.

STEP (3) Adjust the on water oil recovery volume and the shoreline cleanup planning volume for response resources using the appropriate emulsification factor found in the table 7-6.

TABLE 7-6: EMULSIFICATION FACTORS FOR OIL PRODUCT GROUPS

	Oil Group	Emulsification Factor
Non-Persistent Oils:	Group 1 Non-persistent oils	1.0
Persistent Oils:	Group 2 Light crudes	1.8
	Group 3 Medium crudes and fuel	2.0
	Group 4 Heavy crudes and fuels	1.4

STEP (4) Multiply the adjusted volume by the on water recovery mobilization factor found in table 7-7 to determine the total on water oil recovery capacity in gallons per day that should be identified or contracted for to arrive on scene within the applicable time. See section 7.2.4 for required response tier times.

TABLE 7-7: ON WATER OIL RECOVERY RESOURCE MOBILIZATION FACTORS

ON WATER OIL RECOVERY RESOURCE MOBILIZATION FACTORS			
Area	**TIER 1**	**TIER 2**	**TIER 3**
River and Canals	.30	.40	.60
Inland/Nearshore/Great Lakes	.15	.25	.40
Offshore	.10	.165	.21
Note: These mobilization factors are for total resources mobilized, not incremental resources.			

TABLE 7-8: REMOVAL CAPACITY PLANNING TABLE

Spill Location	Offshore			Nearshore/Inland Great Lakes**			Rivers and Canals		
Sustainability of on water oil recovery	6 days			4 days			3 days		
Oil Group	% Natural Dissipation	% Recovered Oil	% Oil Onshore	% Natural Dissipation	% Recovered Floating Oil	% Oil Onshore	% Natural Dissipation	% Recovered Floating Oil	% Oil Onshore
1 Non-persistent oils	80	5	/	80	20	80	80	10	10
2 Light Crudes	75	25	5	50	50	30	40	15	45
3 Medium Crudes and fuels	60	40	20	30	50	80	20	15	65
4* Heavy Crudes and fuels	50	40	30	10	50	70	5	20	75

* For planning purposes, non-petroleum oil must be considered a Group 4 persistent oil

** These numbers total over 100% by design

STEP (5) Use the resulting on water oil recovery capacity for each tier to identify response resources necessary to sustain operations in the applicable geographical area. The equipment should be capable of sustaining operations for the time period specified in table 7-8, The Removal Capacity Planning Table.

STEP (6) Identify and ensure the availability of, through contract or other approved means, sufficient oil spill recovery devices to provide the effective daily oil recovery capacity required. Table 7-5 provides a table of Response Capability Caps by Geographic Areas. If the required capacity exceeds the applicable cap specified in this table, then a facility owner/operator should contract only for the quantity of resources required to meet the cap, but should identify sources of additional resources. The owner/operator of a facility whose planning volume exceeds the cap in 1993 should make arrangements for additional capacity to be under contract by 1998. The process should be repeated in 1998 and 2003. For a facility that carries multiple groups of oil, the required effective daily recovery capacity for each group should be calculated before applying the cap.

OPA 90 RESPONSE RESOURCES WORKSHEET FOR COAST GUARD MARINE TRANSFER RELATED FACILITIES

Part I Background Information

Step (A): Calculate Worst Case Discharge in barrels

(Calculated in chapter 5): _____ bbls (A)

Step (B): Oil Group (Table 7-1) _____

Step (C): Geographic Area (choose one)

☐ Nearshore/Inland/Great Lakes

☐ River/Canals

☐ Offshore

Step (D): Percentages of Oil (Table 7-8)

Lost to Natural Dissipation _____ % (D1)

Recovered Floating Oil _____ % (D2)

Oil Onshore _____ % (D3)

Step (E): Recovery (in barrels)

On-Water: $\frac{(D2) \times (A)}{100}$ _____ bbls (E1)

On-Shore: $\frac{(D3) \times (A)}{100}$ _____ bbls (E2)

Step (F): Emulsification Factor (Table 7-6) _____ (F)

Step (G): On-Water Oil Recovery Resource Mobilization Factor (Table 7-7)

Tier 1 _____ (G1)

Tier 2 _____ (G2)

Tier 3 _____ (G3)

Part II On-Water Recovery Planning Capacity (barrels/day)
(Recovery capacity that must be planned for)

Tier 1: (E1) x (F) x (G1) _____ (H1)

Tier 2: (E1) x (F) x (G2) _____ (H2)

Tier 3: (E1) x (F) x (G3) _____ (H3)

Part III Shoreline Cleanup Planning Capacity (barrels/day)
(Cleanup capacity that must be planned for)

(E2) x (F) _____

Part IV Response Capacity Caps By Geographic Area (barrels/day)
(Cap on mandatory contracted capacity)
(table 7-5)

Tier 1 _____ (J1)

Tier 2 _____ (J2)

Tier 3 _____ (J3)

Part V Amount Needed to be Identified, but not Contracted for in Advance (barrels/day)

Tier 1: (H1) - (J1) _____

Tier 2: (H2) - (J2) _____

Tier 3: (H3) - (J3) _____

Note: To convert to gallons/day, multiply barrel/day by 42.
(20 bbls/day) * (42 gallons/bbl) = 840 gallons/day

Refer to the "Oil Spill Response Plan Concepts" for additional information.

7.1.4 Response Times

Oil spill recovery devices (equipment and resources) identified to meet the applicable worst case discharge planning volume must be able to arrive on the scene of a discharge within the time specified for the applicable response tier in table 7-9 below:

TABLE 7-9: REQUIRED RESPONSE TIMES FOR WORST CASE DISCHARGES

DETERMINING RESPONSE TIMES			
	TIER 1	TIER 2	TIER 3
Higher Volume Port Area	6 hours	30 hours	54 hours
Great Lakes	6 hours	30 hours	54 hours
All other river, inland, canal and nearshore areas	12 hours	36 hours	60 hours

The three levels of response tiers apply to the amount of time in which response equipment and resources must arrive at the scene of a worst case discharge volume. For example, at a worst case discharge in an inland area, the first tier response must arrive at the spill scene within 12 hours; the second tier response must arrive within 36 hours; and the third tier response resources must arrive within 60 hours.

7.1.5 Storage Capacity

In addition to determining equipment needs and response times, the owner/operator also needs to arrange for oil storage capacity to store recovered oily material. This oil storage capacity for recovered material must be equivalent to twice the effective daily recovery rate required on scene. The required daily recovery rate is shown in the preceding OPA 90 Worksheets in blocks H1, H2, H3 and part III. The storage capacity must be at least twice the amounts shown in those blocks (2*[H1+H2+H3+partIII]).

7.1.6 Effective Daily Recovery Rate

Identify in the facility response plan the effective daily recovery rate for oil recovery devices using the equations in table 7-10. This rate should be calculated for each piece of equipment and the totals added together to get an overall effective daily recovery rate. This rate must be at least equal to H1+H2+H3+part III.

TABLE 7-10: EFFECTIVE DAILY RECOVERY RATE

DETERMINING THE EFFECTIVE DAILY RECOVERY RATE
$R = T * 24 \text{ hrs/day} * E$
R: Effective daily recovery rate in barrels per day
T: Throughput rate in barrels per hour (bph) nameplate capacity
E: 20% efficiency factor (.2)

TABLE 7-11: RESPONSE RESOURCE OPERATION CRITERIA

OIL RECOVERY DEVICES		
Operating Environment	**Significant Wave Height**	**Sea State**
Rivers and Canals	≤ 1 foot	1
Inland	≤ 3 feet	2
Great Lakes	≤ 4 feet	2-3
Ocean	≤ 6 feet	3-4

BOOM				
Boom Property	River & Canals	Inland	Great Lakes	Ocean
Significant Wave Height	≤ 4	≤ 3	≤ 4	≤ 6
Sea State	1	2	2	3-4
Boom Height (inches) draft plus freeboard	6-18	18-42	18-42	≥ 42
Reserve Buoyancy to Weight Ratio	2:1	2:1	2:1	3:1 to 4:1
Total Tensile Strength - lbs	4,500	15-20,000	15-20,000	≥ 20,000
Skirt Fabric Tensile Strength - lbs	200	300	300	500
Skirt Fabric Tear Strength - lbs	100	100	100	125

7.2 CONTAINMENT AND DRAINAGE PLANNING. Include in the response plan descriptions and diagrams to adequately contain and drain spilled oil. A proper plan to contain and control a spill through drainage may minimize the threat of harm to human health and the environment. To comply with this requirement, you should provide a written description of how your facility will contain and control a spill through drainage criteria.

In addition to primary (tank shell) and secondary (dike walls) containment, a backup means of tertiary containment (i.e. boom) is necessary. Key factors to consider are the location and amount of tertiary containment equipment and other response resources. Response personnel should know the location and containment capacity of on-scene devices, such as booms and weirs. Section 3.2 of your report should discuss the list of facility response equipment and a description of key equipment characteristics. It is important to keep this list up to date so that responders know the location and capabilities of such equipment. In addition to containment devices, other equipment such as sorbents or hand tools can be used alone or in conjunction with booms and weirs to mitigate the spread of a spill. An inventory of these alternate response resources should also be maintained to allow periodic review by facility personnel who may be expected to initiate containment actions.

Although not an active response measure, proper drainage planning is an important aspect of preventing discharges from reaching navigable waters. Include drainage system descriptions in the response plan. Employees should understand the basic purpose and design of drainage systems so that they can recognize situations that may lead to spill events. A copy of the containment and drainage plans from the SPCC Plan may be inserted in this section, including any diagrams of those plans.

Insert the final containment and drainage drawings and diagrams into the appropriate section in chapter 9, "Diagrams."

7.3 INTERIM AND FINAL SPILLED MATERIAL RECLAMATION OR DISPOSAL PLANS. The response plan must include plans for disposal of contaminated cleanup materials. To comply with this requirement, provide a written description of how and where the facility intends to recover, reuse, decontaminate, or dispose of the contaminated discharge material. Materials that require disposal may include: recovered product; contaminated soil; contaminated equipment and materials; personal protective equipment; decontamination solutions; adsorbents; and spent chemicals.

The disposal plans must be in accordance with Federal (RCRA), State, and local regulations. A copy of the disposal plans from the facilities SPCC Plan may be inserted in this section, including any diagrams. The following table will help in preparing the disposal plans.

TABLE 7-12: DISPOSAL PLAN

DISPOSAL PLAN			
Material	Disposal Facility	Location	RCRA Permit /Manifest
1._____	_____	_____	_____
2._____	_____	_____	_____
3._____	_____	_____	_____
4._____	_____	_____	_____

CHAPTER 8. SELF-INSPECTION, TRAINING, AND MEETINGS

8.1 INTRODUCTION. The Facility Response Plan must include:

- A checklist and record of inspections for tanks, secondary containment, and response equipment;
- A description and record of training exercises and periodic unannounced drills; and
- Logs of discharge prevention meetings.

An effective plan for inspection, training, drills, and meetings will help ensure that the facility's oil spill response capabilities are properly maintained and the employees are prepared to implement the Facility Response Plan. Regular inspection of facilities and training of personnel will serve to prevent or reduce the impact of discharge. The recordkeeping requirements of this section are also required by the SPCC Plan and may be duplicated for insertion in the Facility Response Plan. Forms for recordkeeping are included as attachments at the end of the chapter and on the user's disk. You may substitute other forms for those provided; however, you must ensure that all required information is included.

8.2 FACILITY SELF-INSPECTIONS. The facility self-inspection should include tanks, secondary containment, and response equipment. Current regulations require self-inspection of tanks and secondary containment and inclusion of written procedures and records from these inspections in the SPCC plan. They should also be reproduced and included in the response plan. Some of the actions discussed in this chapter have already been addressed in Chapter 6. Chapter 6 can be referenced as applicable as you are preparing this chapter.

The facility self-inspection requires the following items:

- A checklist of items to be inspected;
- A method of recording the actual inspection and its findings (the date of each inspection should be recorded, and all records must be maintained for 5 years); and
- A system to evaluate and respond to inspection findings.

8.2.1 Tank Inspection. A regular program for tank inspection and maintenance should be in place. The following sections will provide a description of items which should be included in the inspection program. Document the results from the self-inspection on the Tank/Surface Impoundment Inspection Log. A sample checklist and inspection log are provided as attachment 8-A and on user's disk.

8.2.1.1 Tank Leak Inspection. A visual inspection to check for leaks should include:

- Drip marks
- Discoloration of tanks
- Puddles containing stored material
- Corrosion
- Cracks
- Localized dead vegetation

8.2.1.2 Foundation Inspection. A visual inspection to check for foundation integrity

should include the following:

- Cracks
- Discoloration
- Puddles containing stored material
- Settling
- Gaps between tank and foundation
- Damage caused by vegetation roots

8.2.1.3 Piping Inspection. A visual inspection of the piping should include:

- Droplets of stored material
- Discoloration
- Corrosion
- Bowing of pipe between supports
- Evidence of stored material seepage on valves or seals
- Localized dead vegetation

8.2.2 Secondary Containment Inspection. The secondary containment system will affect the seriousness of a tank or piping failure. Inspections must be conducted regularly to ensure the integrity of the system. Record the results of the self-inspection on the Tank/Surface Impoundment Inspection Log. The procedures for immediately reporting and correcting discrepancies must be understood by all personnel involved with the self-inspection system. A description of items which should be checked follows:

8.2.2.1 Dike or Berm System Inspection. A visual inspection of any dike or berm system should include:

- Level of precipitation in dike/available capacity
- Operational status of drainage valves
- Dike or berm permeability
- Debris
- Erosion
- Permeability of the earthen floor of diked area
- Location/status of pipes, inlets, drainage beneath tanks, etc.

8.2.2.2 Secondary Containment Inspection. A visual inspection of the secondary containment system should include:

- Cracks
- Discoloration

- Presence of stored material (standing liquid)
- Corrosion
- Valve conditions

8.2.2.3 Retention and Drainage Ponds Inspection. The self-inspection should include:

- Erosion
- Available capacity
- Presence of stored material
- Debris
- Stressed vegetation

8.2.3 Response Equipment Checklist. It is critical that response equipment not only be available but also be in proper operating condition in the event of an accidental discharge. Regular inspection of all response equipment is required to maintain response capability. Record the date of the response equipment inspection on the Emergency Response Equipment List Form prepared in Chapter 3. The procedures for immediately reporting and correcting discrepancies must be understood by all personnel involved with the self-inspection system.

8.2.4 Inspection Recordkeeping. All facility equipment inspection and maintenance records must be maintained for 3 years.

8.3 MOCK ALERT DRILLS

8.3.1 Procedures. The Facility Response Plan should include a description of the type and frequency of periodic announced and unannounced drills. Staging oil spill response drills is the primary means to test the effectiveness of your response program. The drills should be as realistic as possible for maximum benefit.

The following drill frequencies are required for MTR facilities:

1) **Monthly facility personnel and "Qualified Individual" notification drills.**

2) **Semi-annual facility equipment deployment drills.** (An unannounced annual drill, in which equipment is deployed, may be credited towards one of the semi-annual drills.)

3) **Annual spill management team tabletop drills.**

4) **Annual unannounced drill.** During this drill, the oil spill removal organizational and spill management team identified in the facility's response plan shall be activated. The unannounced drill shall include deployment of major response equipment on base or another appropriate staging area. Facility equipment deployed during this unannounced drill may be credited towards the semi-annual deployment drill. Any unannounced oil spill drills required by a Federal or State agency may also be credited towards this requirement provided that the drill meets all of the above requirements.

These frequencies are also summarized in Table 8-1. Although other regulations require drills, they do not specify required frequencies. The MTR required frequencies provide good guidelines to use in developing your drill schedule. The facility shall participate to the extent requested in any unannounced drills conducted by the

cognizant USCG COTP or EPA Regional Administrator. The facility is not required to participate in an agency drill if the facility has participated in a successful unannounced Federal or State oil spill response drill within the past 24 months.

The facility commander shall ensure that the response resources identified in the plan participate in annual deployment drills.

The drills may be designed to exercise either components of the FRP or the entire response plan. A drill that exercises the entire plan shall be conducted at least once every 3 years.

Spill response cooperatives and contractors are not required to participate in facility drills as long as they comply with the required drill frequencies and maintain records of those drills.

TABLE 8-1: DRILL FREQUENCY REQUIREMENTS

DRILL FREQUENCY REQUIREMENTS for MTR facilities	
Drill Type	**Required Minimum Frequency**
Facility Personnel & Qualified Individuals Notification Drills	Monthly
Facility Equipment Deployment Drill	Semi-Annual**
Spill Management Team Tabletop Drills	Annual
Unannounced Activation Facility Drills	Annual**
Full Plan Drill	Every 3 years
Unannounced Agency Drill	As announced but not more frequently than every 24 months.
** If facility equipment is deployed during the unannounced drills, that drill may be credited towards the semi-annual equipment deployment drill.	

8.3.2 Recordkeeping. The Mock Alert Drill Log, attachment 8-B, should be used for recording the outcome of drills. It should note predicted and unpredicted actions taken by the response team. A plan for correcting any discrepancies noted should also be included. The records documenting facility personnel participation in drills shall be maintained for 3 years following completion of the drills.

The emergency response coordinator also shall ensure that drills of oil spill removal cooperatives and other response resources are maintained for 3 years.

8.4 RESPONSE TRAINING.

8.4.1 Procedures. The Facility Response Plan shall include a description of the training procedures and programs and record of training exercises. Since operator error is often a cause of accidental discharge, the importance of regular training cannot be overemphasized.

The training procedures must identify the method of training any volunteers or casual laborers employed during a response to comply with the requirements of 29 CFR 1910.120. If there is a fire or other danger, and an onshore facility's employees evacuate rather

than respond, OSHA evacuation rules on employee communication and training apply. Table 8-2 summarizes OSHA training requirements for varying job responsibilities. Table 8-3 provides additional detail about the specific subjects which must be covered during training.

TABLE 8-2: OSHA TRAINING REQUIREMENTS

OSHA TRAINING REQUIREMENTS		
Emergency Response Staff		
Level 1	First Responder (Awareness Level)[1]	Sufficient training or proven experience in specific competencies Annual refresher
Level 2	First Responder (Operations Level)[2]	Level 1 competency and 8 hours initial or proven experience in specific competencies Annual refresher
Level 3	Hazmat Technician[3]	24 hours of Level 2 and proven experience in specific competencies Annual refresher
Level 4	Hazmat Specialist[4]	24 hours of Level 3 and proven experience in specific competencies Annual refresher
Level 5	On-Scene Incident Commander[5]	24 hours of Level 1 and additional competencies Annual refresher

Ref: 29 CFR 1910.120(q)(6)

[1]Witness who discover a release of hazardous materials and who are trained to notify the proper authorities.

[2]Responds to releases of hazardous substances in a defensive manner, without trying to stop the releases.

[3]Responds aggressively to stop the release of hazardous substances.

[4]Responds with and in support to HAZMAT technicians, but who have specific knowledge of various substances.

[5]Assumes control of the incident scene beyond the first-responder awareness level.

TABLE 8-3: HAZWOPER TRAINING

HAZWOPER TRAINING								
Type	Clean-up Site			Emergency Response				
Level	Site Worker	Cross Worker	Low Hazard Worker	Level 1	Level 2	Level 3	Level 3	Level 5
Time (hrs.): Classroom	24	24	24	Trng. or Exp.	8 or Exp.	24 of Level 2 + Items**	24 of Level 3 + Items**	24 of Level 4 + Items**
Field	24	8	8					
Annual Refresher	X	X	X	X	X	X	X	X
SUBJECT								
Site Safety & Health Organization	X	R	X					
Hazard Communication	X	X	X	X	X	X	X***	X***
Personal Protective Equipment	X	X	X		X	X	X	X
Respiratory Protection	R	R	X		X	X	X	X
Site Security & Control	R	R	R	X	X	X	X	X
Decontamination Procedures	X	R	X		X	X	X	R
Containment & Cleanup	X	R	R		R	X	X	R
Emergency Response Plan	X	X	X	X	X	X	X	X
Monitoring Equipment & Methods						X	X	
Information Sources				X	X	X	X	X
Confined Space Entry Procedures	X	X	X	R	R	R	R	R
First Aid & Rescue Equipment	R	R	R	R	R	R	R	R
Demo Compt. Written Certification	X	X	X		X	X	X	R
Site Risk Assessment & Character						X	X	
Reference 29 CFR 1910.120	(e)(3) (i)	(e)(3) (i)	(e)(3) (iii)	(q)(6) (i)	(q)(6) (ii)	(q)(6) (iii)	(q)(6) (iv)	(q)(6) (v)

X = Required R = Recommended if applicable

**Individuals should be competent in the specific items listed in the reference paragraph.

***These individuals need more training; see subject paragraphs.

8.4.2 Facility Specific Training. If the facility transfers or receives more than 10,000 gallons of oil in a single operation more than twice per month on average, or greater than or equal to 50,000 gallons in a single operation more than once per month on average, it shall be responsible for providing the following training:

- All personnel involved in oil-handling activities shall receive at least 8 hours of training initially and at least 4 hours annually. Training subjects are to include correct equipment operation and maintenance, general facility operations, discharge prevention laws and regulations, and the contents of the facility's SPCC Plan.

- New employees shall be given 8 hours of training within the first week of their employment. Same subjects as above.

- All personnel shall participate in unannounced drills conducted at least annually.

Document all training in each employee's log.

Training must also be conducted on the inspection procedures for discharge detection, see Chapter 6.

Skilled support personnel. Personnel who are skilled in the operation of certain equipment, such as mechanized earth moving or digging equipment or crane and hoisting equipment, and who are needed temporarily to perform immediate emergency support work that cannot reasonable by performed in a timely fashion by an employer's own employees, and who will be or may be exposed to the hazards at an emergency response scene, are not required to meet the training required in this paragraph for the employer's regular employees. These personnel shall be given an initial briefing at the site prior to their participation in any emergency response. The initial briefing shall include instruction in the wearing of appropriate personal protective equipment, what chemical hazards are involved, and what duties are to be performed. All other appropriate safety and health precautions provided to the employer's own employees shall be used to assure the safety and health of these personnel.

Untrained Volunteers. Untrained volunteers are required to have a minimum of 8 hours of training including cleanup procedures, safety and decontamination procedures. They are to be given information specific to this oil spill including procedures for the specific type of oil spilled and the locations affected.

8.4.3 Spill Notification Training. Training on the procedures for spill notification must be conducted for all pertinent personnel on a regular basis. Topics shall include:

- Familiarization with the information required on the Spill Notification form;

- The notification process including recalling response personnel and contacting the National Response Center; and

- Mitigation procedures to relay to the individual who discovers the spill.

8.4.4 Response Training. All response personnel shall receive training on a regular basis on the following topics:

- The characteristics and hazards of the oil discharged,

- The conditions that are likely to worsen emergencies, including the consequences of facility malfunctions or failures, and the appropriate corrective actions;

- The steps necessary to control any accidental discharge of oil and to minimize the potential for fire, explosion, toxicity, or environmental damage; and

- The proper firefighting procedures and use of equipment, fire suits, and breathing apparatus.

8.4.5 Recordkeeping. A log of all oil spill response training must be maintained for employees with responsibilities under the Facility Response Plan. An Employee Training log and a Training Session log are included as attachment 8-C. Include a copy of the Employee Training log for every employee listed on the Facility Personnel form.

The training records must document training of facility personnel and make them available for inspection upon request. Records for facility personnel must be maintained at the facility for 3 years. Ensure that training records for spill response cooperatives and contractors are maintained for 3 years and are available for inspection upon request.

8.5 DISCHARGE PREVENTION MEETINGS

8.5.1 Procedures. In addition to training, meetings to discuss discharge prevention can be a useful means to identify problem areas. Refer to "Oil Spill Response Plan Concepts" for further guidance.

8.5.2 Recordkeeping. A log of all discharge prevention meetings must be maintained. It should include the subjects discussed and an action plan with target completion dates. A sample log is included as attachment 8-D.

Attachment 8-A

TANK/SURFACE IMPOUNDMENT LOG			
Inspector	Tank/SI #	Date	Comments/Deficiencies

Attachment 8-A

VISUAL TANK INSPECTION		
Date:		
Tank Number:		
Tank Location:		
Carefully inspect all applicable items. If any items are found UNSAT, describe at bottom of next page.		
Tank Leak Inspection	SAT	UNSAT
1. Drip marks		
2. Tank discoloration		
3. Puddles of stored material		
4. Tank corrosion		
5. Tank cracks		
6. Localized dead vegetation		
Foundation Inspection	SAT	UNSAT
7. Foundation cracks		
8. Foundation discoloration		
9. Puddles of stored material		
10. Foundation settling		
11. Gaps between tank and foundation		
12. Damage from vegetation roots		
Piping Inspection	SAT	UNSAT
13. Droplets of stored material		
14. Piping discoloration		
15. Piping corrosion		
16. Bowing of pipe between supports		
17. Seepage on valves or seals		
18. Localized dead vegetation		
Dike or berm inspection	SAT	UNSAT
19. Level of precipitation in dike vs. available capacity		
20. Operational status of drainage valves		
21. Dike or berm permeability		
22. Debris		
23. Erosion		

VISUAL TANK INSPECTION		
Date:		
Tank Number:		
Tank Location:		
24. Permeability of earthen floor of diked area		
Secondary containment inspection		
25. Cracks in containment		
	SAT	UNSAT
26. Discoloration on containment		
27. Presence of standing material		
28. Corrosion		
29. Valve condition		
Retention and drainage pond inspection	SAT	UNSAT
30. Erosion		
31. Available capacity		
32. Presence of stored material		
33. Debris		
34. Stressed vegetation		

COMMENTS: (Reference by numbered item.)

Attachment 8-B

MOCK ALERT DRILL LOG

Date: _____

Drill Scenario: _____

Time Drill Started: _____

Response Coordinator Name: _____

Emergency Response Team's Response Time: _____

Facility Personnel Response Time: _____

Other Facility/Agency Response Time: _____

Contractor/Cooperative Response Time: _____

Notes:

Deficiencies	Required Corrective Action	Time Table

*** Attach list of drill participants. ***

MOCK ALERT DRILL PARTICIPANTS		
Drill Date:		
Name	Position	Facility/Company

Attachment 8-C

TRAINING SESSION LOG

Date: _____

Training Length: _____

Training Subject: _____

Instructor: _____

Name	Position	SSN

Attachment 8-C
EMPLOYEE TRAINING LOG

Name: _____

SSN: _____

Date Reported for Duty: _____

TRAINING	Required	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
Indoctrination					
OSHA Hazardous Substance Incident Response					
Facility Specific Oil Spill Response Training					
Oil Spill Drill					
DOD Hazard Communication					
Personal Protective Equipment					
Hearing Protection					
Sight Protection					
Back Injuries					
Confined Space Entry					

Attachment 8-D

DISCHARGE PREVENTION MEETING

Date: _____

Meeting Length: _____

ATTENDEES

Name	Position	Phone

ITEMS DISCUSSED

Subject/Issue Identified	Required Action	Time Table

CHAPTER 9. DIAGRAMS

9.1 INTRODUCTION. Several diagrams are required in the Facility Response Plan. The diagrams shall be of sufficient size to clearly depict all of the required elements. It is suggested that the diagrams be full size drawings. Depending upon the host installation size and the size and number of "OPA Facilities," more than one diagram will probably be required.

These diagrams will also be reduced in size and inserted into the Emergency Response Action Plan prepared in Chapter 12.

9.2 SITE PLAN DIAGRAM. Identify the following elements on the site plan diagram(s):

- The entire host installation to scale with the OPA facility(s) clearly marked;
- The location, contents and capacities of above and below ground bulk storage tanks;
- The location, contents and capacity of drum storage areas;
- The contents and capacities of surface impoundments;
- Process buildings;
- Transfer areas;
- Secondary containment systems (location and capacity);
- Structures where hazardous materials are stored or handled, including a description of materials stored and capacity of storage;
- Location of communication and emergency response equipment (the equipment list was prepared in Chapter 3);
- Location of electrical equipment which contains oil;
- Mooring areas;
- Location of oil pipelines;
- Control stations for oil transfer; and
- Location of nearby navigable water.

If the complex consists of both marine-transportation-related piping and non-transportation-related storage, the diagram must identify the first valve of facility piping separating the transportation-related from the non-transportation-related segment of the facility. (The first valve inside the secondary containment.)

Full scale drawings can be obtained from the public works engineering division. Compile the above information with assistance from the fuels branch, public works engineering and the environmental division.

9.3 SITE DRAINAGE PLAN. Identify the following elements on the site drainage plan(s):

- Major sanitary and storm sewers, manholes, and drains (obtain information from public works engineering division);

- Weirs and shut-off valves (obtain information from public works engineering division);
- Surface water receiving streams (obtain information from visual inspection or public works engineering division);
- Fire fighting water sources (obtain information from facility or local fire department);
- Other utilities (obtain information from public work engineering division);
- Response personnel ingress and egress (develop with input from the facility disaster preparedness officer, the security office and/or the fire department);
- Equipment transportation routes (develop with input from the facility disaster preparedness officer, the security office, the fire department, and/or public works transportation division); and
- Direction of spill flow from release points (develop based upon information from facility topographic maps available from public works engineering division).

CHAPTER 10. SECURITY

10.1 INTRODUCTION. Due to the danger of an oil spill resulting from vandalism, and to protect from people unknowingly trespassing at fuel facilities, all facilities are required to maintain an appropriate level of security.

The SPCC is also required to contain facility security information so duplicate information may be photocopied and inserted in this section.

10.2 HOST INSTALLATION SECURITY. Describe the security provided by the host installation. Include a description of the perimeter fencing and the method of screening personnel entering the installation such as gate security guards. Obtain this information from visual inspection or by contacting the facility security office.

10.3 OPA FACILITY SECURITY. Describe the security provided at each OPA facility. Subheadings denote the topics to be discussed. Delete subheadings not applicable to your facility.

10.3.1 Fencing. Describe fencing provided around OPA facilities. Include description of height and material of fencing. Note if gate guards are provided. Sources of this information include visual inspection, fuels branch or the security office.

10.3.2 Lighting. Describe the lighting which is provided at OPA facilities. Include description of lighting type and location. Note lighting which is provided at locations which are particularly sensitive to accidental discharge or vandalism. Sources of this information include visual inspection or the engineering division of public works.

10.3.3 Valve and Pump Locks. Describe locks installed on master flow and drain valves and any other valves which permit direct outward flow of a tank's contents to the surface. These locks ensure that valves remain in the closed position when in non-operating or non-standby status.

Describe the locks provided on all pumps when in an "off" position. Note if pumps are located at a site accessible only to authorized personnel.

Sources of this information include the engineering division or the pipe shop (plumbing) of the public works department or the supply department fuels branch.

10.3.4 Pipeline Connection Caps. Describe the capping or blank-flanging provided on loading/unloading connections of oil piping when not in service or when in standby service for an extended time (six months or more.) Sources of this information include the engineering division or the pipe shop (plumbing) of the public works department or the supply department fuels branch.

10.3.5 Emergency Cut-Off Locations. Describe the automatic or manual valves available for the fuel handling facilities. These valves are shown on the site drainage plan prepared in Chapter 9. Sources of this information include the engineering division or the pipe shop (plumbing) of the public works department or the supply department fuels branch.

CHAPTER 11. PLAN SUBMISSION, REVIEW, AND UPDATE PROCEDURES

11.1 PLAN SUBMISSION. Two copies of a newly completed or revised FRP shall be forwarded to all of the applicable agencies. The following table provides the submission locations.

TABLE 11-1: FRP SUBMISSION LOCATIONS

Facility Type	Submit 2 copies of FRP to:
Non-Transportation-Related Onshore Facility	Regional Administrator Environmental Protection Agency (determine appropriate region)
Marine-Transportation-Related Facility	Captain of the Port (COTP) United States Coast Guard (determine appropriate region)
Onshore Oil Pipelines (only those pipelines outside complex boundaries)	Pipeline Response Plans Officer Research and Special Programs Administration Department of Transportation 400 Seventh Street, SW. Washington, DC 20590-0001
Portable Tanks (Bulk Packaging)	Associate Administrator for Hazardous Materials Safety 400 Seventh Street, SW. Washington, DC 20590-0001
Tank Cars (Bulk Packaging)	Federal Railroad Administrator 400 Seventh Street, SW. Washington, DC 20590-0001
Cargo Trucks (Bulk Packaging)	Federal Highway Administrator 400 Seventh Street, SW. Washington, DC 20590-0001

11.1.1 Substantial Harm Facilities. If the facility could reasonably be expected to cause "substantial harm", the FRP must be submitted to the appropriate agency(s) as shown in the table above. Although it is not required to be approved the agency may still review the document for completeness.

11.1.2 Significant and Substantial Harm Facilities. If the facility could reasonably be expected to cause "significant and substantial harm", the FRP must be submitted to the appropriate agency(s) for review and approval. To comply with regulations between the time of plan submission and approval, a certification must be submitted by the facility stating that:

1) The facility has the personnel and equipment available, through contract or other approved means, to respond to the maximum extent possible to a worst case discharge or substantial threat of discharge; and

2) The contracts or agreements cited in the facility's certification are valid and enforceable by the parties.

This certification allow a "significant and substantial harm" facility to operate without an approved plan until 18 February 1995. It does not relieve the facility of the responsibility to submit the plan. It only provides the agency(s) with additional time for the approval process. Submit certification

with FRP or as soon as facility is designated "significant and substantial."

11.2 PLAN REVIEW. Annually review and update the FRP. Plan review must be conducted within one month of anniversary date of approval of plan. This update should include a review of the current NCP and ACP. Particular emphasis should be placed on ensuring that spill response procedures and standards are consistent with these broader plans. Also, ensure that the ESAs identified in the ACP are considered in the FRP.

Place emphasis on ensuring that the following information is current and accurate:

- Personnel names and phone numbers;
- Contractor and cooperative names, phone numbers, and capability; and
- Changes to facility which affect oil spill detection and/or response.

Submit amendments of the Facility Response Plan to the appropriate agency(s) for information and/or approval. Enter any changes in the plan and note it in the record of changes page. If no changes are required during the annual review, submit a letter indicating that the plan was reviewed and remains valid with no changes. Include a copy of this letter in the front of each copy of the response plan and record it in the record of changes page.

For marine-transportation-related facilities, the FRP must be resubmitted to the USCG COTP every 5 years regardless of whether any changes to the plan are required.

An agency may require a facility to revise a response plan at any time as a result of a compliance inspection if it is determined that the response plan does not meet the requirements of the regulations or as a result of inadequacies noted in the response plan during an actual pollution incident at the facility.

11.3 FACILITY MODIFICATIONS.

If a facility materially changes its operations, it shall revise and resubmit the response plan within 60 days of the change. Material changes include:

- A change in the facility's configuration that materially alters the information included in the response plan;
- A change in the type of oil handled, stored, or transferred that materially alters the required response resources;
- A change in the name and/or capabilities of the oil spill removal cooperatives that provide equipment and personnel to respond to facility spills;
- A material change in the facility's spill prevention and response equipment or emergency response procedures;
- A change in the facility's operating area that includes ports or geographic area(s) not covered by the previously approved plan; and
- Any other changes that materially affect the implementation of the response plan.

Personnel and telephone number lists included in the response plan do not require prior approval by the agency(s). Copies of these changes shall be forwarded to the agency(s) as changes occur.

CHAPTER 12. EMERGENCY RESPONSE ACTION PLAN

12.1 INTRODUCTION. The Emergency Response Action Plan (ERAP) is a quick-reference version of the main plan for use during an emergency. It consists of key information compiled from the main plan. Two copies are to be kept in the pocket inside the front cover of each plan binder for ready availability.

12.2 COMPILING THE DOCUMENT. Create a separate ERAP file. This will make it easier to print out a new copy when the hard copies are lost or dirtied by field use.

Create a title page in the following format (using a 20-point scalable font if available):

EMERGENCY RESPONSE ACTION PLAN
(FUEL/OIL SPILLS)

NAME OF FACILITY

All but the diagrams can be taken directly from the main plan. Retrieve the main plan as Document 2 and copy in items in the following order:

- EMERGENCY NOTIFICATION PHONE LIST (chapter 3);
- SPILL RESPONSE NOTIFICATION form (chapter 3);
- FACILITY RESPONSE EQUIPMENT table (chapter 3);
- EMERGENCY RESPONSE TEAM table from (chapter 3);
- FACILITY RESPONSE PERSONNEL table (chapter 3);
- EVACUATION PLAN AND DIAGRAM (chapter 3); and
- SPILL CONTAINMENT AND DRAINAGE HIGHLIGHTS (chapter 7). Condense this portion to include only the actions required during the first few hours of the spill response. It should describe how to stabilize the source of the spill and prevent the spread of spilled oil.

Create pages for the following diagrams, labeling each page with the document name as a reminder when the hardcopies are assembled:

- EVACUATION DIAGRAM; and
- FACILITY DIAGRAM.

While this is the format suggested by the EPA, feel free to customize the ERAP to your facility by adding an item or two.

CHAPTER 13. ASSEMBLING THE FRP

When all of the chapters have been completed, assemble the FRP. There will actually be two documents--an Emergency Response Action Plan (ERAP) and a Facility Response Plan (FRP). All of the chapters will be assembled in the order prepared with the exception of the ERAP which will actually be Chapter 1.

If the FRP is being submitted to EPA, prepare the EPA cover sheet at attachment 13-A. All of the required information is available from the prepared document.

Pipeline Response Plan. Create an appendix which contains all of the information required for pipeline response zones. Refer to appendix C for more information.

USCG COTP Zones. If your **mobile** facility operates in more than one USCG COTP zone. Prepare appendices for each zone which include the applicable forms from Chapter 3:

- Emergency response team;
- Facility response equipment;
- Other Navy facility and government agency resources;
- Contractor/cooperative arrangements; and
- Evacuation plans.

A site specific plan implementation, Chapter 7 must also be included for each zone.

Insert entire document into a three ring binder for easy update and use. Attach a copy of the Emergency Response Team list to the Emergency Notification Phone list for easy recall.

RESPONSE PLAN COVER SHEET

FORM APPROVED
OMB NO. XXXXX
APPROVAL EXPIRES [DATE]

IMPORTANT

This form is intended to be computer readable. To complete this form, entirely fill in the desired circle with black or blue ink. Please do not fold, staple, or mutilate this form. Return this form in a 9" x 12" envelope. Please print requested information in BOXES for each individual question.

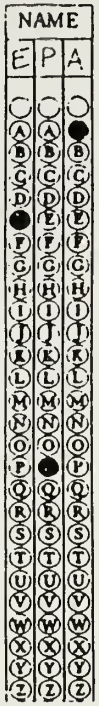
CORRECT MARK

●

INCORRECT MARKS

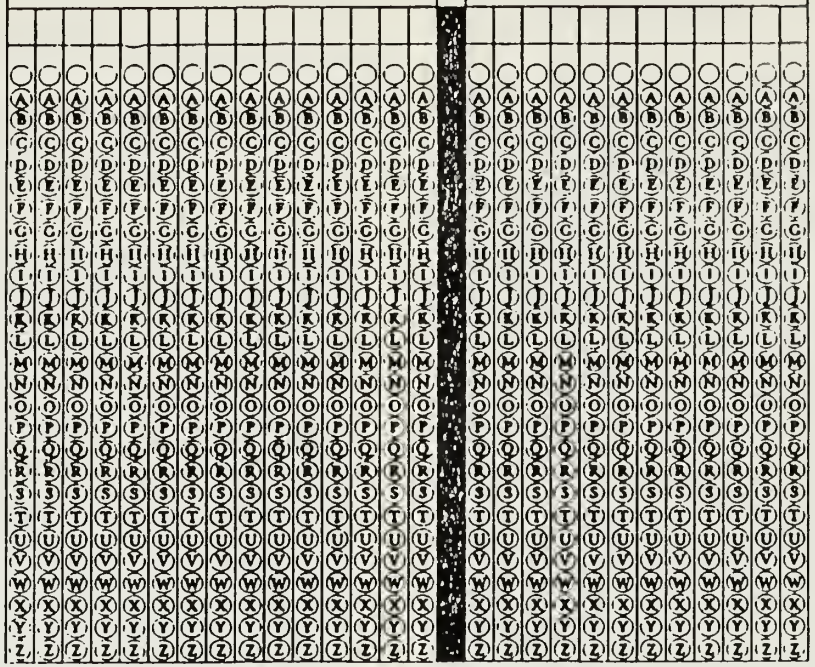
⊘ ◌ ◔ ⊗ ◕

EXAMPLE:



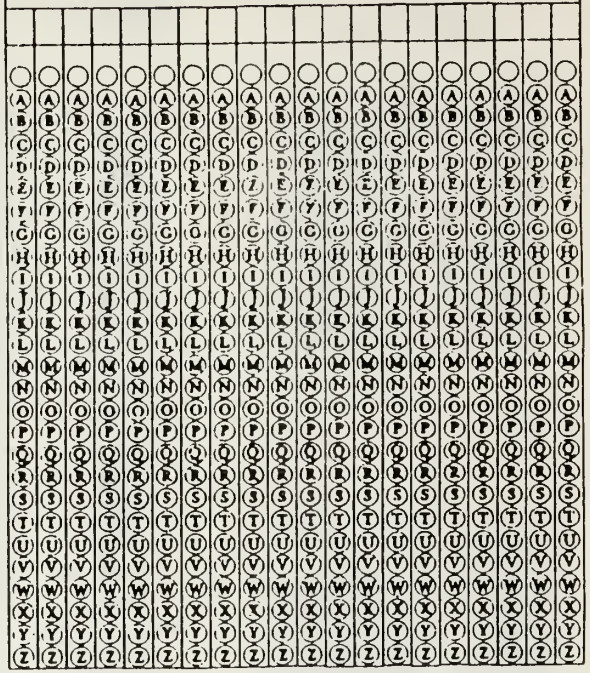
OWNER / OPERATOR OF FACILITY

LAST NAME - First 15 letters | FIRST NAME - First 12 letters



FACILITY NAME

First 20 letters



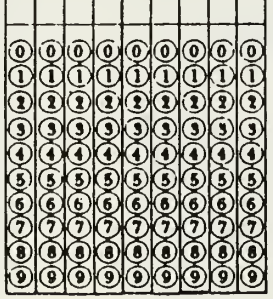
INSTRUCTIONS

This form is designed to accompany a submitted Response Plan.

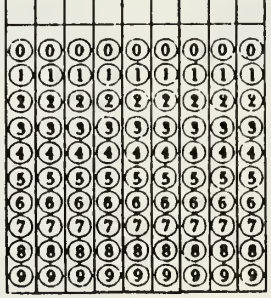
Explanations and detailed instructions can be found in Appendix G.

Facility information contained here will be returned with the Response Plan.

LARGEST TANK CAPACITY (GALLONS)



MAXIMUM STORAGE CAPACITY (GALLONS)



NUMBER OF TANKS

GENERAL INFORMATION

Public reporting burden for the collection of this information is estimated to vary from one hour to 270 hours per response in the first year, with an average of 5 hours per response. This estimate includes time for reviewing instructions, searching existing data sources, gathering the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate of this information, including suggestions for reducing this burden to : Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

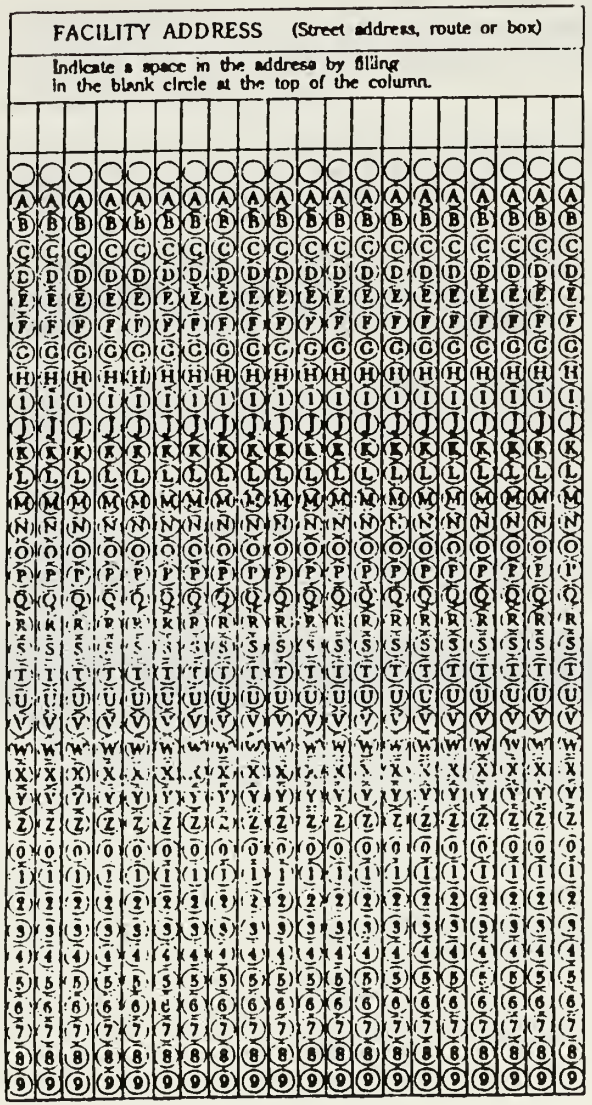
(CONTINUED)

• *REMEMBER*

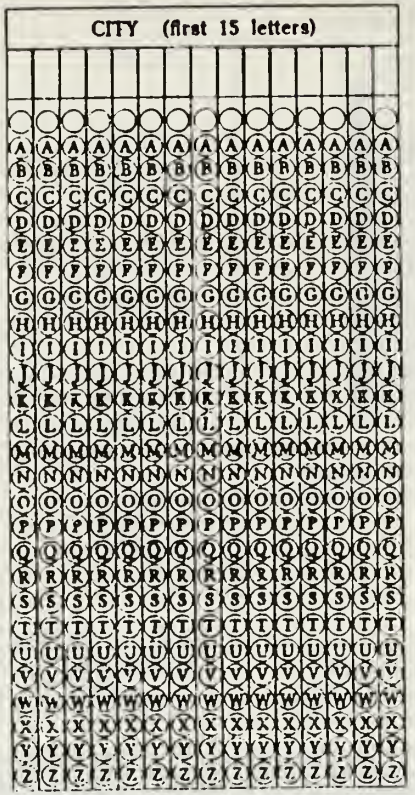
USE BLACK OR BLUE INK
DO NOT FOLD, STAPLE, OR MUTILATE THIS FORM

FACILITY ADDRESS (Street address, route or box)

Indicate a space in the address by filling in the blank circle at the top of the column.

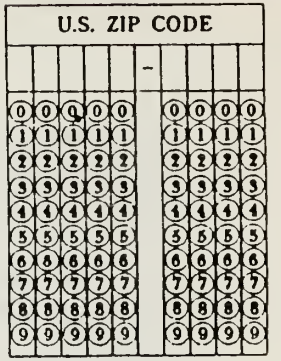


CITY (first 15 letters)



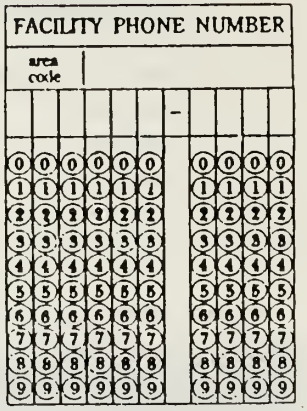
STATE

U.S. ZIP CODE

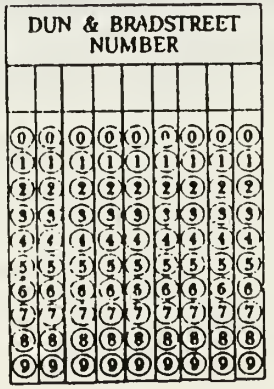


FACILITY PHONE NUMBER

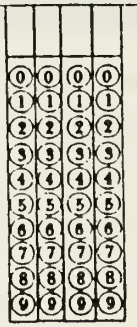
area code



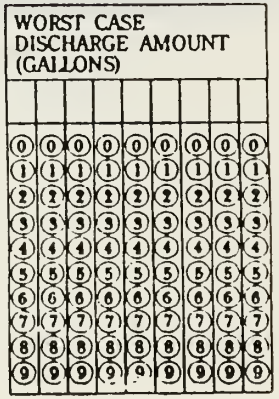
DUN & BRADSTREET NUMBER



STANDARD INDUSTRIAL CLASSIFICATION (SIC)



WORST CASE DISCHARGE AMOUNT (GALLONS)



DETERMINATION OF SUBSTANTIAL HARM

Does the facility operation include over-water transfers* of oil to or from vessels and does the facility have a maximum capacity greater than or equal to 42,000 gallons? ○ yes ○ no

Does the facility lack adequate secondary containment* for any aboveground storage area sufficiently large to contain the capacity of the largest aboveground storage tank within that storage area and is the total storage capacity greater than or equal to one million gallons? ○ yes ○ no

Is the facility located at a distance* that would shut down a public drinking water intake and is the total storage capacity greater than or equal to one million gallons? ○ yes ○ no

Is the facility located at a distance* that could cause injury to an environmentally sensitive area as referenced in Appendix D and is the total storage capacity greater than or equal to one million gallons? ○ yes ○ no

Within the past five years, has the facility experienced a reportable spill* exceeding 10,000 gallons and is the total storage capacity greater than or equal to one million gallons? ○ yes ○ no

* Explanations of the above referenced terms can be found in Appendix C. If an alternative formula to the ones contained in Attachment C-III is used to establish the appropriate distance to sensitive environments or drinking water intakes, documentation of the reliability and analytical soundness of the formula must be attached to this form.

ADDITIONAL INFORMATION

LATITUDE (DEGREES: NORTH)

degrees		min.		sec.	
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

LONGITUDE (DEGREES: WEST)

degrees		min.		sec.	
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

FACILITY DISTANCE TO NAVIGABLE WATER:
Fill the appropriate circle.

- 0 - 1/4 mile ○
- 1/4 - 1/2 mile ○
- 1/2 - 1 mile ○
- > 1 mile ○

● *REMEMBER*
USE BLUE OR BLACK INK
DO NOT FOLD, STAPLE, OR MUTILATE THIS FORM

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining information, I believe that the submitted information is true, accurate, and complete.

Signature

Name (please type or print)

Title

Date

APPENDIX A: ACRONYMS

ACP	Area Contingency Plan
API	American Petroleum Institute
ASTM	American Society of Testing and Materials
BLM	Bureau of Land Management
CHRIS	Chemical Hazards Response Information System
COTP	Captain of the Port
CWA	Clean Water Act
DOT	Department of Transportation
EEZ	Exclusive Economic Zone
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
FEMA	Federal Emergency Management Agency
FRP	Facility Response Plan
HAZMAT	Hazardous Materials
HAZWOPER	Hazardous Waste Operations and Emergency Response
LEPC	Local Emergency Planning Committee
MTR	Marine transportation-related
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOSC	Navy On-Scene Coordinator
NOSCDR	Navy On-Scene Commander
NPS	United States National Park Service
NRC	National Response Center
NRT	National Response Team
NWS	National Weather Service
OPA	Oil Pollution Act of 1990
OSC	On-Scene Coordinator
OSHA	Occupational Safety and Health Administration
PPE	Personal Protective Equipment
RA	Regional Administrator
RCRA	Resource Conservation and Recovery Act
RRT	Regional Response Team
SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
SERC	State Emergency Response Commission
SI	Surface Impoundment
SIC	Standard Industry Codes
SPCC	Spill Prevention, Control, and Countermeasures
USCG	United States Coast Guard

USFS	United States National Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

APPENDIX B: DEFINITIONS

Act of God	An unanticipated grave natural disaster or other natural phenomenon of an exceptional, inevitable, and irresistible character the effects of which could not have been prevented or avoided by the exercise of due care or foresight. (33 U.S.C. 2701)
Adverse Weather	Conditions that make it difficult for response equipment and personnel to cleanup or remove spilled oil. These weather conditions will be considered when identifying response systems and equipment in a response plan. Factors to be considered include significant wave height, ice conditions, temperatures, weather-related visibility, and currents within the COTP zone in which the systems or equipment are intended to function. (33 CFR 154.1020)
Alteration	Any work on a tank or related equipment involving cutting, burning, welding, or heating operations that changes the physical dimensions or configuration of a tank. (proposed 40 CFR 112.2 of 17 Feb 93)
Average most probable discharge	A discharge of the lesser of 50 barrels or 1 percent of the discharge volume of the worst case discharge. (33 CFR 154.1020)
Barrel	42 United States gallons at 60° Fahrenheit (33 U.S.C 2701)
Breakout tank	A container that is part of a pipeline facility regulated by the Department of Transportation and is used solely for the purpose of compensating for pressure surges or to control and maintain the flow of oil through pipelines, Such tanks are frequently in-line. (proposed 40 CFR 112.2 of 22 Oct 91)
Bulk storage tank	Any container used to store oil. These tanks are used for purposes including, but not limited to, the storage of oil prior to use, while being used, or prior to further distribution in commerce. (proposed 40 CFR 112.2 of 22 Oct 91)
Bunkered tank	A storage tank constructed or placed in the ground by cutting the earth and recovering in a manner whereby the tank breaks the natural grade of the land. (proposed 40 CFR 112.2 of 22 Oct 91)
Captain of the Port (COTP) zone	A zone specified in 33 CFR part 3 and, where applicable, the seaward extension of that zone to the outer boundary of the exclusive economic zone (EEZ). (33 CFR 154.1020)
Coastal zone	Includes all United States waters subject to the tide, United States waters of the Great Lakes and Lake Champlain, specified ports and harbors on inland rivers, waters of the contiguous zone, other waters of the high seas subject to the national Contingency Plan, and the land surface or land substrate, ground waters, and ambient air proximal to those waters. (49 CFR 194.5)

Complex	A facility possessing a combination of transportation-related and non-transportation-related components that is subject to the jurisdiction of more than one Federal agency under section 311(j) of the CWA. (proposed 40 CFR 112.2 of 17 Feb 93)
Contiguous zone	The zone established by the United States under Article 24 of the Convention of the Territorial Sea and Contiguous Zone, that is contiguous to the territorial sea and that extends nine miles seaward from the outer limit of the territorial area. (proposed 40 CFR 112.2 of 22 Oct 91)
Contract or other approved means	Includes: (1) A written contractual agreement with a response contractor that identifies and ensures the availability of the necessary personnel or equipment within appropriate response times; (2) A written certification by the owner operator that the necessary personnel and equipment resources, owned or operated by the facility owner or operator, are available to respond to a discharge within appropriate response times; (3) Active membership in a local or regional oil spill removal organization that has identified and ensures adequate access through such membership to necessary personnel and equipment to respond to a discharge within appropriate response times in the specified geographic areas; or (4) Other specific arrangements approved by the Regional Administrator upon request of the owner or operator. (proposed 40 CFR 112.2 of 17 Feb 93)
Deepwater port	Any fixed or floating manmade structures other than a vessel, or any group of such structures, located beyond the territorial sea and off the coast of the United States and which are used or intended for use as a port or terminal for the loading or unloading and further handling of oil for transportation to any State. The term includes all associated components and equipment, including pipelines, pumping stations, service platforms, mooring buoys, and similar appurtenances to the extent they are located seaward of the high water mark. (33 CFR 148.1)
Discharge	Includes, but is not limited to, spilling, leaking, pumping, pouring, emitting, emptying, or dumping. (40 CFR 109.2)
Emergency response coordinator	See *qualified individual*

Environmentally sensitive area	An area of environmental importance which is in or adjacent to navigable waters. Environmentally sensitive areas may include a variety of areas, such as: wetlands, national and state parks, critical habitats for endangered/threatened species, wilderness and natural areas, marine sanctuaries, conservation areas, preserves, wildlife areas, scenic and wild rivers, seashore and lakeshore recreational areas, and critical biological resource areas. (proposed 40 CFR appendix D of 17 Feb 93)
Exclusive economic zone (EEZ)	The zone contiguous to the territorial sea of the United States extending to a distance up to 200 nautical miles from the baseline rom which the breadth of the territorial sea is measured. (33 CFR 154.1020)
Facility	Any mobile or fixed, onshore or offshore building, structure, installation, equipment, pipe, or pipeline use in oil well drilling operations, oil production, oil refining, oil storage, and waste treatment. The boundaries of a facility may depend on several site-specific factors, including, but not limited to, the ownership or operation of buildings, structures, and equipment on the same site and the types of activity at the site. (proposed 40 CFR 112.2 of 22 Oct 91)
Great Lakes	Lakes Superior, Michigan, Huron, Erie, and Ontario, their connecting and tributary waters, the Saint Lawrence River as far as Saint Regis, and adjacent port areas. (33 CFR 154.1020)
Harmful Quantity	Includes discharges of oil that violate applicable water quality standards or cause a sludge or emission to be deposited beneath the surface of the water or upon adjoining shorelines. (40 CFR 110.3)
High volume areas	A navigable water, which, because of the velocity of the flow and vessel traffic, would require a more rapid response in case of a worst case discharge or substantial threat of such a discharge. (49 CFR 194.5 and 33 CFR 154.1020)
Incident	Any occurrence or series of occurrences having the same origin, involving one or more vessels, facilities, or any combination thereof, resulting in the discharge or substantial threat of discharge of oil. (33 U.S.C. 2701)
Injury	A measurable adverse change, either long- or short-term, in the chemical or physical quality or the viability of a natural resource resulting either directly or indirectly from exposure to a discharge of oil, or exposure to a product of reactions resulting from a discharge of oil. (proposed 40 CFR 112.2 of 17 Feb 93)
Inland area	The area shoreward of the boundary lines defined in 46 CFR part 7, except in the Gulf of Mexico, and excluding the Great Lakes. In the Gulf of Mexico, the Inland Area is the area shoreward of the lines of demarcation (COLREG lines) defined in 33 CFR 80.740-80.850. The inland area does not include the Great Lakes. (33 CFR 154.1020)

Inland zone	The environment inland of the coastal zone excluding the Great Lakes, Lake Champlain, and specified ports and harbors on inland rivers. (49 CFR 194.5)
Line section	A continuous run of pipe that is contained between adjacent pressure pump stations, between a pressure pump station and a terminal or breakout tank, between a block valve, or between adjacent block valves. (49 CFR 194.5)
Major river	A river that, because of its velocity and vessel traffic, would require a more rapid response in case of a worst case discharge. (49 CFR 194.5)
Marine transportation-related facility	Any onshore facility or segment of a complex regulated under section 311(j) of the Federal Water Pollution Control Act (FWPCA) by two or more Federal agencies, including piping and any structure used or intended to be used to transfer oil to or from a vessel and any deepwater port. The MTR portion of the complex extends from the facility oil transfer systems's connection with the vessel to the first valve inside the secondary containment surrounding tanks in the non-transportation-related portion of the facility or, in the absence of secondary containment, to the valve or manifold adjacent to the tanks comprising the non-transportation-related portion of the facility, unless another location has otherwise been agreed to by the COTP and the appropriate Federal official. (33 CFR 154.1020)
Maximum extent practicable	Means the limitations used to determine oil spill planning resources and response times for on-water recovery, shoreline protection, and cleanup for worst case discharges from onshore non-transportation-related facilities in adverse weather. The appropriate limitations for such planning are available technology and the practical and technical limits on an individual facility owner or operator. (proposed 40 CFR 112.2 of 17 Feb 93)
Maximum most probable discharge	A discharge of the lesser of 1,200 barrels or 10 percent of the volume of a worst case discharge. (33 CFR 154.1020)
Natural resources	Includes land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held intrust by, appertaining to, or otherwise controlled by the United States (including the resources of the exclusive economic zone), any State or local government or Indian tribe, or any foreign government. (33 U.S.C. 2701)
Navigable waters	Includes all waters that are used in interstate or foreign commerce or for recreation, all interstate waters including wetlands, and all intrastate waters (e.g., lakes, rivers, streams, intermittent streams, mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds). (proposed 40 CFR 112 appendix G of 17 Feb 93)

Nearshore area	The area extending seaward 12 miles from the boundary lines defined in 46 CFR part 7, except in the Gulf of Mexico, the nearshore area is the area extending seaward 12 miles from the line of demarcation (COLREG lines) defined in 33 CFR 80.740-80.850. (33 CFR 154.1020)
Non-persistent oil	Also known as a Group I oil. A petroleum-based oil that, at the time of shipment, consists of hydrocarbon fractions: (1) at least 50% of which by volume, distill at a temperature of 340° C (645° F), and (2) at least 95% of which by volume, distill at a temperature of 370° C (700° F). (33 CFR 154.1020)
Non-petroleum oil	Oil of any kind that is not petroleum-based. It includes, but is not limited to, animal and vegetable oils. (33 CFR 154.1020)
Ocean	The offshore area and nearshore area. (33 CFR 154.1020)
Offshore area	The area beyond 12 nautical miles measured from the boundary lines defined in 46 CFR part 7 extending seaward to 50 nautical miles, except in the Gulf of Mexico. In the Gulf of Mexico, it is the area beyond 12 nautical miles of the line of demarcation (COLREG lines) extending seaward to 50 nautical miles. (33 CFR 154.1020)
Offshore facility	Any facility of any kind (other than a vessel or public vessel) located in, on, or under any of the navigable waters of the United States, and any facility of any kind that is subject to the jurisdiction of the United States and is located in, on, or under any other waters. (proposed 40 CFR 112.2 of 22 Oct 91)
Oil	Oil in any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil. It does not include petroleum, including crude oil or any fraction thereof, which is specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601) and which is subject to the provisions of that Act. (33 U.S.C. 2701)
Oil drilling, production, or workover facility (offshore)	Includes all drilling or workover equipment, wells, flowlines, gathering lines, platforms, and auxiliary non-transportation-related equipment and facilities in a single geographical oil or gas field operated by a single operator. (proposed 40 CFR 112.2 of 22 Oct 91)
Oil spill removal organization	An entity that provides response resources. (33 CFR 154.1020 and 49 CFR 194.5)

On-Scene Coordinator (OSC)	The federal official designated by the Administrator of the EPA or by the Commandant of the USCG to coordinate and direct federal response under subpart D of the National Contingency Plan, 40 CFR part 300. (49 CFR 194.5)
Onshore facility	Any facility (including, but not limited to, motor vehicles and rolling stock) of any kind located in, on, or under any land within the United States, other than submerged lands. (33 U.S.C. 2701)
Onshore oil pipeline facility	Includes new and existing pipe, rights-of-way and any equipment, facility, or building used in the transportation of oil located in, on, or under, any land within the United States other than submerged land. (49 CFR 194.5)
Operating area	Includes rivers and canals, inland, nearshore, Great Lakes, or offshore geographic location(s) in which a facility is handling, storing, or transporting oil. (33 CFR 154.1020)
Operating environment	Includes rivers and canals, inland, Great Lakes, or ocean. These terms are used to define the conditions in which response equipment is designed to function. (33 CFR 154.1020)
Operating in compliance with the plan	Means operating in compliance with the provisions of this subpart including, ensuring the availability of the response resources by contract or other approved means, and conducting the necessary training and drills. (33 CFR 154.1020)
Owner/Operator	Any person owning or operating an onshore facility or an offshore facility, and in case of any abandoned offshore facility, the person who owned or operated or maintained such facility immediately prior to such abandonment. (33 U.S.C. 2701)
Partially buried tank	A storage tank that is partially inserted or constructed in the ground, but not fully covered with earth. (proposed 40 CFR 112.2 of 22 Oct 91)

Permanently closed	Any tank or facility that has been closed in the following manner: (1) All liquid and sludge must be removed from each tank and connecting lines. Any waste products removed must be disposed of in accordance with all applicable State and Federal requirements; (2) Each tank must be rendered free of explosive vapor by testing the tank with a combustible gas indicator, or explosimeter, or other type of atmospheric monitoring instrument in order to determine the lower explosive limit (LEL). The EPA and OSHA standard for a hazardous atmosphere, based on extensive industrial experience, is one that contains a concentration of combustible gas, vapor, or dust greater than 25 percent of the LEL of the material. Provisions must be made to eliminate the danger imposed by the tank as a safety hazard due to the presence of flammable vapors. Facilities are to ensure that closure is permanent, and that the tank vapors remain below the LEL; and (3) All connecting lines must be blanked off, and valves are to be closed and locked. Conspicuous signs are to be posted on the tank warning that it is a permanently closed tank and that vapors above the LEL are not present. (proposed 40 CFR 112.2 of 22 Oct 91)
Persistent oil	Includes a petroleum-based oil that does not meet distillation criteria for a non-persistent oil. Persistent oils are further classified based on specific gravity as follows: Group II--specific gravity less than .85, Group III--specific gravity between .85 and less than .95, Group IV--specific gravity .95 or greater, Group V--specific gravity greater than 1.0. (33 CFR 154.1020)
Person	Includes an individual, firm, corporation, association, partnership, State, municipality, commission, or political subdivision of a State, or any interstate body. (33 U.S.C. 2701)
Pipeline	All parts of an onshore pipeline facility through which oil moves including, but not limited to, line pipe, valves, and other appurtenances connected to line pipe, pumping units, fabricated assemblies associated with pumping units, metering and delivery stations and fabricated assemblies therein, and breakout tanks. (49 CFR 194.5)
Production facility	See *Onshore production facility* or *Oil drilling, production, or workover facilities (offshore)*
Qualified individual and alternate qualified individual	An English-speaking representative of an operator, located in the United States, available on a 24-hour basis, with full authority to: activate and contract with required oil spill removal organization(s); activate personnel and equipment maintained by the operator; act as liaison with the OSC; and obligate any funds required to carry out all required or directed oil response activities. (33 CFR 154.1026 and 49 CFR 194.5)

Regional Administrator	The EPA Regional Administrator or a designee of the Regional Administrator, in and for the Region in which the facility is located. (proposed 40 CFR 112.2 of 22 Oct 91)
Remove or removal	Containment and removal of oil or a hazardous substance from water and shorelines or the taking of other actions as may be necessary to minimize or mitigate damage to the public health or welfare, including, but not limited to, fish, shellfish, wildlife, and public and private property, shorelines, and beaches. (33 U.S.C. 2701)
Repair	Any work necessary to maintain or restore a tank or related equipment to a condition suitable for safe operation. (proposed 40 CFR 112.2 of 17 Feb 93)
Response activities	The containment and removal of oil from the land, water, and shorelines, the temporary storage and disposal of recovered oil, or the taking of other actions as necessary to minimize or mitigate damage to the public health or welfare or the environment. (33 CFR 154.1020)
Response area	The inland zone or coastal zone in which the response activity is occurring. (49 CFR 194.5)
Response plan	The operator's plan for responding, to the maximum extent practicable, to a worst case discharge of oil, or the substantial threat of such a discharge. (49 CFR 194.5)
Response resources	The personnel, equipment, supplies, and other capability necessary to perform the response activities identified in a response plan. (33 CFR 154.1020 and 49 CFR 194.5)
Response zone (pipelines)	A geographic area either along a length of pipeline or including multiple pipelines, containing one or more adjacent line sections, for which the operator must plan for the deployment of, and provide, spill response capabilities. The size of the zone is determined by the operator after considering available capability, resources, and geographic characteristics. (49 CFR 194.5)

Responsible party	Means the following: (A) Vessels - In the case of a vessel, any person owning, operating, or demise chartering the vessel. (B) Onshore facilities - In the case of an onshore facility (other than a pipeline), any person owning or operating the facility, except a Federal agency, State, municipality, commission, or political subdivision of a State, or any interstate body, that as the owner transfers possession and right to use the property to another person by lease, assignment, or permit. (C) Offshore facilities - In the case of an offshore facility (other than a pipeline or a deepwater port licensed under the Deepwater Port Act of 1974 33 U.S.C. 1501 et seq.)), the lessee of permittee of the area in which the facility is located or the holder of a right of use and easement granted under applicable State law or the Outer Continental Shelf Lands Act 43 U.S.C. 1301-1356 for the area in which the facility is located (if the area in which the facility is located (if the holder is a different person than the lessee or permittee), except a Federal agency, State, municipality, commission, or political subdivision of a State, or any interstate body, that as owner transfers possession and right to use the property to another person by lease, assignment, or permit. (D) Deepwater ports - In the case of a deepwater port licensed under the Deepwater Port Act of 1974 33 U.S.C. 1501-1524, the licensee. (E) Pipelines - In the case of a pipeline, any person owning or operating the pipeline. (F) Abandonment - In the case of an abandoned vessel, onshore facility, deepwater port, pipeline, or offshore facility, the persons who would have been responsible parties immediately prior to the abandonment of the vessel or facility. (33 U.S.C. 2701)
Rivers and Canals	Includes bodies of water confined within the inland area with a project depth of 12 feet or less, including Intracoastal Waterway and other waterways artificially created for navigation. (33 CFR 154.1020)
Secondary containment	A system which is able to hold the entire contents of the largest single tank plus have sufficient freeboard to allow for precipitation and be impervious to oil for 72 hours and be constructed such that no oil will escape to surface waters before cleanup occurs. (proposed 40 CFR 112.7 of 22 Oct 91)
Sheen	An iridescent appearance on the surface of water. (40 CFR 110.1)

Sludge	An aggregate of oil or oil and other matter of any kind in any form other than dredged spoil having a combined specific gravity equivalent or greater than water. (40 CFR 110.1
SPCC Plan	The document required by the Oil Pollution Prevention regulation that details the equipment, manpower, procedures, and steps to prevent, control and provide adequate countermeasures to an oil spill. The Plan is a written description of the facility's compliance with the procedures of this regulation. (proposed 40 CFR 112.2 of 22 Oct 91)
Specified minimum yield strength	The minimum yield strength, expressed in pounds per square inch, prescribed by the specification under which the material is purchased from the manufacturer. (49 CFR 194.5)
Spill event	A discharge of oil that may be harmful into or upon the navigable waters of the United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act). (proposed 40 CFR 112.1 of 22 Oct 91)
Spill management team	The personnel identified to staff the organizational structure identified in a response plan to manage response plan implementation. (33 CFR 154.1020)
Storage capacity	The total capacity of the tank or container regardless of whether the tank or container is filled with oil or a mixture of oil and other substances. (proposed 40 CFR 112.2 of 22 Oct 91)
Stress level	The level of tangential or hoop stress, usually expressed as a percentage of specified minimum yield strength. (49 CFR 194.5)
Substantial threat of a discharge	Any incident or condition involving a facility that may create a risk of discharge of oil. Such incidents include, but are not limited to storage tank or piping failures, above ground or underground leaks, fires, explosions, flooding, spills contained within the facility, or other similar occurrences. (33 CFR 154.1020)
Tank vessel	A vessel that is constructed or adapted to carry, or that carries, oil or hazardous material in bulk as cargo or cargo residue, and that: (A) is a vessel of the United States; (B) operates on the navigable waters; or (C) transfers oil or hazardous material in a place subject to the jurisdiction of the United States. (33 U.S.C. 2701)
Territorial seas	The belt of the seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters, and extending seaward a distance of 3 miles. (33 U.S.C. 2701)

United States	Includes the States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, Guam, American Samoa, the U.S. Virgin Islands, and the Pacific Island Governments and any other territory or possession of the United States. (33 U.S.C. 2701)
Vessel	Includes every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water, other than a public vessel. (33 U.S.C. 2701)
Wellhead protection area	The surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfield. (SDWA 1428(e) and proposed 40 CFR 112 appendix G of 17 Feb 93)
Wetlands	Those areas that are inundated or saturated by surface or ground water at a frequency or duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include playa lakes, swamps, marshes, bogs, and similar areas such as sloughs, prairie potholes, wet meadows, prairie river overflows, mudflats, and natural ponds. (proposed 40 CFR 112.2 of 22 Oct 91)
Worst case discharge	In the case of a vessel, a discharge in adverse weather conditions of its entire cargo; and in the case of an onshore or offshore facility, the largest foreseeable discharge, including a discharge from fire or explosion, in adverse weather conditions. (33 U.S.C. 2701)

APPENDIX C: RSPA-DOT PIPELINE RESPONSE ZONES

DETERMINE LEVEL OF HARM. RSPA-DOT has divided the harm criteria into two categories: "Substantial Harm" and "Significant and Substantial Harm."

Substantial Harm: RSPA-DOT has determined that most onshore oil pipelines, because of their locations, could reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines. This determination is based on volume of oil transported by pipelines and the fact that they often cross or are located adjacent to navigable waters. Thus most onshore oil pipeline operators will be required to prepare and submit response plans.

Significant and Substantial Harm: A line section can be expected to cause significant and substantial harm to the environment in the event of a discharge of oil into or on the navigable waters or adjoining shorelines if; the pipeline is greater than 6.625 inches in outside nominal diameter, greater than 10 miles in length and the line section -

(1) Has experienced a release greater than 1,000 barrels (42,000 gallons) within the previous five years,

(2) Has experienced two or more reportable releases within the previous five years,

(3) Containing any electric resistance welded pipe, manufactured prior to 1970, operates at a maximum operating pressure that corresponds to a stress level greater than 50% of the specified minimum yield strength of the pipe.

(4) Is located within a five mile radius of potentially affected public drinking water intakes and cold reasonable be expected to reach public drinking water intakes, or

(5) Is located within a one mile radius of potentially affected environmentally sensitive areas, and could reasonably be expected to reach these areas.

PIPELINE RESPONSE ZONE. A geographic area along a length of pipeline, containing one or more adjacent line sections, for which the operator must provide response capabilities. The size of the response zone is determined by the operator after considering available spill response capability, resources, and geographic characteristics, including number and location of navigable waters, public drinking water intakes and environmentally sensitive areas in or adjacent to navigable waters. An operator must provide sufficient response equipment and response personnel, either by the operator's organization or through contract, to reach a worst case discharge, or a substantial threat of such a discharge within the time prescribe for each response zone.

PIPELINE INFORMATION SUMMARY. If it was determined in Chapter 1, Section 1.3.3 that a pipeline plan was required, a pipeline information summary must be completed for each response zone. Some of the information is identical to the information contained in the facility information. The remainder of the form is information which is specific to each response zone. Each response zone pipeline information summary will include the following:

- The pipeline information summary for the core plan;
- The name and telephone number of the qualified individual, available on a 24-hour basis;
- A description of the response zone, including county(s) and state(s) in which

a worst case discharge could cause substantial harm to the environment;

- A list of line sections contained in the response zone, identified by milepost or survey station number or other operator designation.

- The basis for the operator's determination of significant and substantial harm; and

- The type of oil and volume of the worst case discharge.

APPENDIX D: ENVIRONMENTALLY SENSITIVE AREAS

Section 4.1 requires the identification of Environmentally Sensitive Areas (ESAs). If ESAs are located near the facility, more stringent protective measures will be required. There are a number of factors that must be considered to identify ESAs. These factors are presented below. Where appropriate, the statutory authority for designating the ESAs also is included.

Areas Identified Under the Coastal Zone Management Act (CZMA). Areas of coastal waters, the Great Lakes, and their connecting waters identified in Stated Coastal Zone Management Plans that require protection because of their ecological value. The following areas meet this definition:

- Areas designated by the Secretary of Commerce as a National Estuarine Research Reserve (proposed areas are not eligible).
- Areas (identified in the CZMA) of particular concern as designated by a final State Coastal Zone Management Plan that has been approved by NOAA:
  - Areas of unique, scarce, fragile, or vulnerable habitat;
  - Areas of high natural productivity or essential habitat for living resources, including fish, wildlife, endangered species, and thee various trophic levels in the food web critical to their well-being; and
  - Areas needed to protect, maintain, or replenish coastal lands or resources, including coastal flood plains, aquifers, and their recharge areas, estuaries, sand dunes, coral and other reefs, beaches, offshore sand deposits, and mangrove stands.

Areas designated by the CZMA of being of particular concern for reasons other than their ecological value do not meet this definition. Examples include areas of urban concentration where shoreline utilization and water uses are highly competitive and areas where developments and facilities are dependent upon the utilization of or access to coastal waters. Note that some National Estuarine Research Reserves were formerly designated as National Estuarine Sanctuaries. [Statutory Authority: Coastal Zone Management Act (16 U.S.C. **1451, *et seq.*; 15 CFR 921, *et seq.*; 15 CFR 923, *et seq.*)]

Coastal Barriers. A depositional geological feature (e.g., a bay barrier, tombolo, barrier spit, or barrier island) that consists of unconsolidated sedimentary materials; is subject to wave, tidal, and wind energies; and protects landward aquatic habitats from direct wave attack. The coastal barrier includes all associated aquatic habitats, including the adjacent wetlands, marshes, estuaries, inlets, and nearshore waters. Coastal barriers may be either partially developed or undeveloped.

Partially Developed. Coastal barriers that are no more than 50 percent developed and that are not designated as units of the Coastal Barrier Resources System. Under the Coastal Barrier Resources Act, a coastal barrier is considered partially developed if no more than 50 percent of the fastland area (i.e., the area between the landward and shoreward sides of the barrier) is covered by one or more man-made structures (i.e., walled and roofed buildings constructed in conformance with legal requirement, with a projected ground area exceeding 200 square feet) per 5 acres of fastland area. A coastal barrier that is more than 50 percent developed is not eligible for evaluation as a partially developed coastal barrier.

Undeveloped. Under the Coastal Barrier Resources Act, the definition of an undeveloped barrier varies according to whether the entire barrier is being considered or only a portion is being considered. If the entire barrier is being considered, it must contain (on average) fewer than one man-made structure (i.e., a walled and roofed building constructed in conformance with legal requirements, with projected ground area exceeding 200 square feet) per 5 acres of fastland area (i.e., the area between the landward and shoreward sides of the barrier). If only a portion of the barrier is being considered, the portion must have at least 1/4-mile of undeveloped area must extend through the fastland from the beach to the associated landward aquatic habitat.

[Statutory Authority: Units of the Coastal Barrier Resource System are designated under the Coastal Barrier Resources Ac (16 U.S.C. **3501, *et seq.*); coastal barriers that meet the definition for this environmentally sensitive area are not statutorily defined.]

Critical Areas Identified Under the Clean Lakes Program. Subareas within publicly owned lakes, or in some cases entire, small, publicly owned lakes, identified in State Clean Lakes Plans (commonly referred to as the Section 305(b) Report) as critical habitat under the Clean Water Act. Each State is required to submit a Clean Lakes plan to receive grant assistance under section 314 of the Clean Water Act. [Statutory Authority: section 314 of the Clean Water Act (33 U.S.C. **1324).]

Critical Habitats for Federal Designated Endangered or Threatened Species. Habitats designated by the Secretary of the Interior as critical to the survival of endangered or threatened species. Other habitat areas known to be used by the species are considered a separate environmentally sensitive area referred to as Habitats Known to be Used by Federal Designated or Proposed Endangered or Threatened Species. Note that critical habitats has not been designated for all endangered or threatened species. [Statutory Authority: Endangered Species Act (16 U.S.C. **1531, *et seq.*; 50 CFR 424.02)]

Designated Federal Wilderness Areas. Remote areas of undeveloped Federal land designated by an act of Congress as Federal Wilderness Areas based on heir primeval character and influence and lack of permanent roads, improvements, or human habitation. Federal Wilderness Areas are administered either by the USFS, NPS, USFWS, or BLM. [Statutory Authority: National Wilderness Preservation Act (16 U.S.C. **1131, *et seq.*).]

Federal Designated Wild or Scenic Rivers. Rivers or segments of rivers (and the related adjacent land area) that are: (1) designated as National Wild and Scenic Rivers by an act of Congress or the Secretary of the Interior based on their degree of free-flow, lack of development, and the outstanding scenic, natural, and cultural characteristic of the segments and their surrounding environments; and (2) classified as wild and scenic. Rivers may be designated as wild, scenic, or recreational. The Secretary of the Interior can designate a river segment as a National Wild and Scenic River only if the river has been designated "wild and scenic" by one or more State(s). To obtain designation, the Governor of the State(s) submits an application to the Secretary, the Secretary determines that the river has the necessary outstanding values to meet the criteria for inclusion in the National Wild and Scenic Rivers System and determines that the State(s) will protect these values. National Wild and Scenic Rivers are administered either by a Federal agency (i.e., NPS, USFWS, USFS, or BLM), a State agency, or Native American Tribe. Under the Wild and Scenic Rivers Act, segments are designated wild because they are free of impoundments and generally accessible only by trail, with essentially primitive watersheds or shorelines, and unpolluted waters. Segments are designated scenic because they are free of impoundments, with shorelines or watersheds still largely undeveloped, but accessible in places by roads. Rivers segments may also be designated by a State as wild or scenic, but not included in the national system (see subsection below,

Stat Designated Wild or Scenic Rivers). [Statutory Authority: National Wild and Scenic Rivers Act (16 U.S.C. **1271-1287).]

Habitat Used by Federal Designated or Proposed Endangered or Threatened Species. Areas known to be used by a species designated or proposed for designation by the Secretary of the Interior as endangered or threatened in 50 CFR 17.11 (fish and wildlife), in 50 CFR 17.12 (plants), or notification in the *Federal Register*. To evaluate this environmentally sensitive area, there must be at least one member of the species present in and using the habitat. Field survey evidence (not necessarily direct sightings) should be sufficient to conclude that the species would likely be found in the habitat. Note that evidence of presence, but not use (e.g., sighting an individual member of a species flying over the habitat) generally is not sufficient. Examples of sufficient evidence include (but are not limited to):

- A recent sighting (e.g., within the past 5 years) made by a representative of an appropriate Federal, State, county, or local agency (e.g., USFWS, National Marine Fisheries Service (NMFS), State fish and game department, State Natural Heritage program) or by a recognized expert of at least one individual member of the species within and using the area of concern.

- A written statement from a representative of an appropriate Federal, State, county, or local agency, or from a recognized expert indicating that the area of concern is suitable habitat for and is within the current range of the species in question.

- Evidence from a published document or logbook indicating that the area of concern is suitable habitat for and is within the current range of the species of concern.

[Statutory Authority: endangered and threatened species are designated or proposed under the Endangered Species Act (15 U.S.C. **1531, *et seq.*); habitat known to be used by these species is not statutorily defined.]

Habitats Used by Marine Mammals Defined as Depleted. Species defined by the Marine Mammal Protection Act to be depleted include:

- Endangered and Threatened marine mammals (see the subsection above, Habitats Used By Endangered or Threatened Species)

- Additional species determined by the Secretary of Commerce or State that has been designated this authority. This listing is published at 50 CFR 216.15 and currently contains only one species (i.e., the northern fur seal) that is not endangered or threatened. As of February 1993, NMFS had proposed the addition of three additional species to this list:

  - The Mid-Atlantic Coastal Bottle-Nosed Dolphin (proposed at 56 FR 40594, August 15, 1991);

  - The Eastern Spinner Dolphin (proposed at 57 FR 27010, June 17, 1992);

  - Northern Offshore Spotted Dolphin (proposed at 57 FR 27207, June 18, 1992).

  The habitats of these species that have been proposed for depleted status should be considered environmentally sensitive areas for purposes of the proposed Oil Pollution Prevention regulations.

[Statutory Authority: Marine Mammal Protection Act of 1972, as amended (16

U.S.C. 1361, *et seq.*)]

Hatcheries. Areas managed by the USFWS or a State fish and game agency used for the propagation of fish species. [Statutory Authority: Fish and Wildlife Act of 1956, as amended (16 U.S.C. 742a-742j) and State laws.]

Marine Sanctuaries. Areas of coastal and ocean waters, the Great Lakes, and their connecting waters designated as a National Marine Sanctuary by the Secretary of Commerce based on their conservation, recreational, ecological, or aesthetic values. All National Marine Sanctuaries are administered by NOAA. [Statutory Authority: Marine Protection Research and Sanctuaries Act (16 U.S.C. **1431, *et seq.*; 15 CFR 922.1 and 15 CFR 922.2).]

National Conservation Areas. Areas within the National Wildlife Refuge System, national fish hatcheries, or other conservation areas administered by the Secretary of the Interior that may be used by the public for recreation provided that the activities are not incompatible with the primary conservation objectives. [Statutory authority: Refuge Recreation Act (16 U.S.C. **460k, *et seq.*)]

National Lakeshore Recreational Areas. Lakeshores designated by an act of Congress as National Lakeshore Recreational Areas because of their recreational and ecological values. All National Lakeshore Recreational Areas are administered by National Park Service. Not all lakeshore areas administered by NPS (or other agencies) are designated National Lakeshore Recreational Areas. [Statutory Authority: Act of August 25, 1916 (16 U.S.C. **1, *et seq.*)]

National Monuments. Areas designated by an act of Congress as National Monuments because of their cultural or historical significance. All National Monuments are administered by NPS. Not all lands administered by NPS are designated National Monuments. [Statutory Authority: Act of August 25, 1916 (16 U.S.C. **1, *et seq.*)]

National Parks. Areas designated by an act of Congress as National Parks for purposes of protection and recreation based on their unique natural, historic, or cultural values. All National Parks are administered by NPS. Not all lands administered by NPS are designated as National Parks. [Statutory Authority: Act of August 25, 1916 (1 U.S.C. **1, *et seq.*).]

National Preserves. Areas designated by an act of Congress as a National Preserve because of their unique flora and fauna. All National Preserves are administered by NPS. Not all areas administered by NPS (or other agencies) are designated National Preserves. [Statutory Authority: Act of August 25, 1916 (16 U.S.C. **1, *et seq.*)]

National River Reaches Designated as Recreational. Rivers or segments of rivers (and the related adjacent land area) that are: (1) designated as National Wild and Scenic Rivers by an act of Congress or the Secretary of the Interior based on their degree of free-flow, lack of development, and the outstanding scenic, natural, and cultural characteristics of the segments and their surrounding environments; and (2) classified as recreational. River segments are classified as recreational because they are readily accessible by road or railroad, may have some development along their shoreline, and may have undergone some impoundment or diversion in the past. See Federal Designated Wild or Scenic Rivers. [Statutory Authority: National Wild and Scenic Rivers Act (16 U.S.C. **1271-1287).]

National Seashore Recreational Areas. Coastlines designated by an act of Congress as National Seashore Recreational Areas because of their recreational and ecological values. All National Seashore Recreational Areas are administered by NPS. Not all coastal areas administered by NPS are designated National Seashore Recreational Areas. [Statutory Authority: Act of August 25, 1916 (16

U.S.C. **1, *et seq.*)]

National Wildlife Refuges. Areas designated for the protection of fish and wildlife, within which hunting and fishing are either prohibited or strictly controlled. National Wildlife Refuges are designated by an act of Congress or through Executive Order, by the President, and are administered by USFWS. [Statutory Authority: National Wildlife Refuge Administration Act of 1966 (16 U.S.C. **668dd-668ee) or comparable State law.]

Sensitive Areas Identified Under National Estuary Program or Near Coastal Waters Program. Subareas within estuaries or near coastal waters identified in State Comprehensive Conservation and Management Plans, filed with EPA, because they support critical life stages of key estuarine or coastal species. [Statutory Authority: Sections 104(b)(3), 304(1), 319, and 320 of the Clean Water Act (33 U.S.C. **1254(b)(3), 1314(1), 1329, and 1330).]

State Designated Wild or Scenic Rivers. Rivers or segments of rivers (and the related adjacent land area, if so designated) that are designated as wild and/or scenic by a State Governor, administrative agency, or legislature under an appropriate State law. Segments generally are designated as wild or scenic because of their degree of free-flow, lack of development, and the outstanding scenic, natural and cultural characteristics of the segment and their surrounding environments; however, specific criteria may vary among States. [Statutory Authority: State laws.]

Units of Coastal Barrier Resources System. Coastal barriers (e.g., bay barrier, tombolo, barrier spit, or barrier island) selected by the Secretary of the Interior and designated by an act of Congress as units of the Coastal Barrier Resources System. Maps that depict the Coastal Barrier Resources System are administered by USFWS. [Statutory Authority: Coastal Barrier Resources Act (16 U.S.C. **3501, *et seq.*).]

Waterfowl Management Areas. Areas designated for the protection of habitats important to waterfowl by a State Governor, administrative agency, or legislature under an appropriate State law. Waterfowl Management Areas are usually designated within State Wildlife Management Areas; however, the types of area designated may vary among States. [Statutory Authority: State laws.]

Wetlands. Generally include swamps, marshes, bogs, and similar areas. As defined in 40 CFR 230.3, wetlands are those "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Wetlands can be natural or man-made.

Wetlands are also defined by the Food Security Act of 1985, the wetlands classification system of USFWS, and the 1989 Federal Manual for Identifying and Delineating Jurisdictional Wetlands. While most large wetlands will be found on USGS topographic maps, many smaller wetlands (which meet the 40 CFR 230.3 definition) do not appear on standard topographic maps. To identify these areas, it may be necessary to use National Wetlands Inventory (NWI) maps. To identify these areas, it may be necessary to use National Wetlands Inventory (NWI) maps, which provide the most complete information on saturated land areas.

The NWI wetlands do not, however, completely overlap with the 40 CFR 230.3 definition specified in the proposed Oil Pollution Prevention regulation. USFWS defines wetlands (i.e., those that it plots on NWI maps) as: "Lands that are transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water, and have one of the following three attributes: at least periodically, the land supports predominantly hydrophytes; the substrate is predominantly undrained hydric soil; and/or the substrate is nonsoil and is saturated with water or is covered by

shallow water at some time during the growing season of each year."

USFWS describes five categories of wetlands:

- Areas with hydrophytes and hydric soils (e.g., marshes, swamps, nd bogs);
- Areas where hydrophytes have become established but hydric soils have not yet developed (e.g., margins of impoundments or excavations);
- Areas without hydrophytes but with hydric soils (e.g., flats where drastic fluctuation in water level, wave action, turbidity, or high concentration of salts may prevent the growth of hydrophytes);
- Areas with hydrophytes but without soils (e.g., seaweed-covered portions of rocky shores); and
- Areas without hydrophytes and soils (e.g., gravel beaches or rocky shores without vegetation).

USFWS divides wetlands (and deepwater systems) into five categories based on salinity, tidal influence, and wave action. Hydrophytes and hydric soils exist in each of these categories:

- The marine system includes all wetlands that occur along the high-energy coastline of the open ocean overlying the continental shelf. Salinities exceed 30 parts per thousand (ppt), with little or no dilution except near the mouths of estuaries.
- The estuarine system includes all wetlands in areas, partially enclosed by land, with open, partly obstructed, or sporadic access to marine waters. Salinities are 0.5 ppt or greater and fluctuate due to evaporation and mixing of fresh water and seawater.
- The riverine system includes all wetlands within channels (i.e., open conduits which at least periodically contain moving water or which form a connection between two bodies of standing water). The riverine system also includes wetlands dominated by trees, shrubs, persistent emergents, and emergent mosses or lichens and wetlands in areas with water containing ocean derived salts in concentrations exceeding 0.5 ppt.
- The lacustrine system includes all wetlands situated in topographic depressions or damned river channels in areas where trees, shrubs, persistent emergents, and emergent mosses and lichens cover less than 30 percent of the total area. Lacustrine systems must be at least 8 hectares (ha) in size and are subdivided into two zones: limnetic (all deepwater habitats), and littoral (areas from the shoreward boundary to a depth of 2 meters below low water or to the maximum extent of non-persistent emergents). All wetlands fall into the littoral zone.
- The palustrine system includes all non-tidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses and lichens, and all such wetlands that occur in tidal areas where the salinity due to ocean derived salts is less that 0.5 ppt. A wetland lacking the above vegetation is also palustrine if: it is less than 8 ha in size; it does not have an active wave-formed or bedrock shoreline; water depth in the deepest part of the basin is less than 2 meters at low water; or salinity due to ocean derived salts is less than 0.5 ppt.

SOURCES FOR IDENTIFYING ENVIRONMENTALLY SENSITIVE AREAS

This section provides sources of information for identifying and delineating environmentally sensitive areas. This section provides the names of maps and other documents where environmentally sensitive areas are likely to be delineated, and appropriate contacts for additional information. All of the exhibits are located at the end of this section. Environmentally sensitive areas categories can be divided into three groups:

- Areas likely to be delineated on USGS topographic maps;
- Areas requiring special maps or charts from specific agencies and other sources; and
- Areas that may require professional judgment to identify and delineate.

ENVIRONMENTALLY SENSITIVE AREAS DELINEATED ON USGS TOPOGRAPHIC MAPS

Many categories of environmentally sensitive areas are delineated on USGS topographic maps. USGS topographic maps are available from USGS Earth Science Information Centers (see Table D-1), most outdoor sports stores, and local outfitters. Categories of environmentally sensitive areas in this group include:

- Designated Federal Wilderness Areas
- National Conservation Areas
- National Lakeshore Recreational Areas
- National Monuments
- National Wildlife Refuges
- National Parks
- National Preserves
- National Seashore Recreational Areas
- Wetlands (in some cases)

Below, the names of the agencies responsible for administering each of these areas is provided and sources of information are given.

Designated Federal Wilderness Areas

These areas may be administered by USFWS, BLM, USFS, or NPS.

(1) Federal Wilderness Areas should be delineated on USGS topographic maps of the area.

(2) The Wilderness Society publishes a map entitled *The National Wilderness Preservation System, 1964-1989* which locates all Federal Wilderness Areas designated before 1989. Contact the Wilderness Society at (202) 842-3400 to obtain a current listing of all designated Federal Wilderness Areas.

(3) If a Federal Wilderness Area is not identified or adequately delineated on one of these maps, contact the appropriate regional office of the appropriate administering agency listed in Tables D-2 through D-5 (NPS, USFWS, BLM, or USFS, respectively).

National Conservation Areas

These areas are administered by the USFWS.

(1) The boundaries of these environmentally sensitive areas generally are delineated on USGS topographic maps.

(2) If the environmentally sensitive area is not identified or adequately delineated on USGS topographic maps, contact the appropriate USFWA regional office listed in Table D-3.

National Lakeshore Recreational Areas

These areas are administered by the NPS.

(1) The boundaries of these environmentally sensitive areas generally are delineated on USGS topographic maps.

(2) If the environmentally sensitive area is not identified or adequately delineated on USGS topographic maps, contact the appropriate NPS regional office listed in Table D-2.

National Monument

See subsection above, National Lakeshore Recreational Areas.

National Parks

See subsection above, National Lakeshore Recreational Areas.

National Preserves

See subsection above, National Lakeshore Recreational Areas.

National Seashore Recreational Areas

See subsection above, National Lakeshore Recreational Areas.

National Wildlife Refuges

These areas are administered by the USFWS.

(1) All lands under USFWS jurisdiction, including national wildlife refuges, are identified in the *Annual Report of Lands Under Control of the USFWS*. Contact the USFWS Division of Realty at (703) 358-1816 to obtain a copy of the report.

(2) National Wildlife Refuges generally are delineated on USGS topographic maps or other maps. Contact the appropriate USFWS regional office listed in Table D-3.

ENVIRONMENTALLY SENSITIVE AREAS DELINEATED ON SPECIALIZED MAPS

Several categories of environmentally sensitive areas are delineated on specialized maps, charts, or other documents available from various Federal and State agencies. Note that most of the environmentally sensitive area delineated on USGS topographic maps also are delineated on specialized maps. Categories of environmentally sensitive areas in this group include:

- Areas Identified Under the Coastal Zone Management Act
- Critical Areas Identified Under the Clean Lakes Program

- Critical Habitats for Federal Designated Endangered or Threatened Species
- Federal Designated Wild or Scenic Rivers
- Habitats Used by Marine Mammals Defined or Proposed for Definition as Depleted
- Hatcheries
- Marine Sanctuaries
- National River Reaches Designated as Recreational
- Areas Identified Under the National Estuary Program or Near Coastal Waters Program
- State Designated Wild or Scenic Rivers
- Units of the Coastal Barrier Resources System
- Wetlands (in some cases).

Below, names and sources of the specific maps, charts, or documents are provided for each of these environmentally sensitive areas. A contact is also provided in case additional information is required.

Areas Identified Under the Coastal Zone Management Act

Areas designated under the Coastal Zone Management Act include those nominated, proposed, and designated as National Estuarine Research Reserves by NOAA, and those designated as being of particular concern in State Coastal Zone Management Plans that have been approved by NOAA.

(1) Table D-6 lists all proposed and designated National Estuarine Research Reserves as of September, 1991. Latitudes and longitudes of these areas are available from NOAA's Marine and Estuarine Management Division, Officer of Ocean and Coastal Resource Management, NOS/NOAA, 1825 Connecticut Ave., Washington DC 20235; (202) 606-4126.

(2) A list of locations for areas nominated for the National Estuarine Research Reserve System and copies of State Coastal Zone Management Plans that delineate other areas designated as being of particular concern are available from the appropriate State coastal zone management agency or NOAA's Office of Ocean and Coastal Resource Management at (202) 606-4126.

(3) Many eligible coastal areas are delineated on USGS topographic maps or NOAA nautical charts. USGS topographic maps can be obtained from one of the Earth Science Information Centers listed in Table D-1, most outdoor sport stores, and local outfitters. NOAA nautical charts can be obtained from NOAA's Document Distribution Office at (301) 436-6990 and from various commercial stores specializing in marine recreation (e.g., boating, fishing).

(4) Other potential sources of information on estuaries and near coastal waters include EPA's Office of Marine and Estuarine Protection at (202) 260-7166 and Sea Grant program offices (located at major universities in coastal areas).

(5) If further assistance is needed to delineate an area identified under the Coastal Zone Management Act, contact the appropriate State coastal zone management agency or the appropriate regional office of the National

Estuarine Research Reserve System listed in Table D-6.

Critical Areas Identified Under the Clean Lakes Program

The Clean Lakes Program is administered by State water quality and natural resource agencies and receives funding from EPA.

(1) The Clean Lakes Program Data Table lists latitudes and longitudes for all elements of the Clean Lakes Program. Contact EPA's Office of Water Regulations and Standards (OWRS) at (202) 260-404 for a copy of this table.

(2) Many eligible areas are delineated on USGS topographic maps. They can be obtained from one of the Earth Science Information Centers listed in Table D-1, most outdoor sport store, and local outfitters.

(3) Further assistance in delineating a given area can be obtained from the Clean Lakes Program Regional contacts (Table D-8), EPA's OWRS at (202) 260-5404, or the appropriate State water quality/natural resources agency.

Critical Habitat for Federal Designated Endangered or Threatened Species

Critical habitat has not been designated for all endangered or threatened species. Although USFWS and NMFS can still designate critical habitat, in recent years they have been reluctant to do so because pinpointing specific habitats in public documents can pose a danger for the species of concern (e.g., from poachers). Only those areas listed in 50 CFR 17.95 (critical habitats for fish and wildlife species), 50 CFR 17.96 (critical habitat for plant species), 50 CFR 226 (marine mammal species), or a *Federal Register* notice, are designated critical habitat.

(1) All critical habitat for Federal endangered or threatened species are identified in 50 CFR 17.95 and 50 CFR 17.96 in the form of maps and/or detailed descriptions.

(2) If further assistance is needed to delineate a critical habitat, contact the appropriate USFWS regional office listed in Table D-3.

Federal Designated Wild or Scenic Rivers

Rivers or segments of rivers that are designated as National Wild and Scenic Rivers are administered by either a Federal agency (i.e., NPS, USFWS, USFS, or BLM), a State agency, or a Native American nation.

(1) All Federal designated wild or scenic rivers are delineated on a map entitled, *National Wild and Scenic Rivers System*, Map Number 38077-BQ-NA-05M-00, December 1990. A listing of each unit, along with the name and address of the administering agency, is included with the map. This map can be obtained from the USGS Earth Science Information Centers listed in Table D-1.

(2) NPS maintains a computerized database of information for each unit of the National Wild and Scenic Rivers System. Information includes: the name of the unit, statutory or other authority for inclusion in the system, administering agency, total number of miles, and number of miles designated as wild, scenic, or recreational. Contact NPS's Division of Park Planning and Protection at (202) 208-4290 for this listing.

(3) The Wild and Scenic Rivers Act identifies each river or river segment as wild, scenic, or recreational. Contact NPS's Division of Park Planning and Protection at (202) 208-4290 to obtain a copy of the act.

(4) If additional information is needed for a particular river segment, contact the appropriate BLM, USFS, NPS, or USFWS regional office listed in Tables D-2 through D-5.

Habitats Used by Marine Mammals Defined as Depleted

All endangered and threatened marine mammals are included under this definition (see subsection above, Habitats Used By Endangered or Threatened Species).

(1) Several other species' have been determined by the Secretary of Commerce to have species or population stocks below their optimal sustainable population. Information on the extent of these habitats can be obtained at 50 CFR 216.15 for all designated species. Information on species that have been proposed for depleted status (and their habitat ranges) can be found in the appropriate *Federal Register* notice. As of February 1993, three species had been proposed for depleted status. These species nd the appropriate *Federal Register* citation are presented below:

- The Mid-Atlantic Coastal Bottle-Nosed Dolphin (proposed at 56 FR 40594, August 15, 1991);
- The Eastern Spinner Dolphin (proposed at 57 FR 27010, June 17, 1992); and
- Northern Offshore Spotted Dolphin (proposed at 57 FR 27207, June 18, 1992).

(2) For additional information contact the NMFS' Office of Protected Resources at (301) 713-2322.

Hatcheries

USFWS maintains a listing of all Federal fish hatcheries. For this listing, contact the USFWS, Office of Administration for Fisheries, 4401 North Fairfax Drive, Arlington, VA 22203, (703) 358-1861. State fish and game agencies should maintain information on state fish hatcheries.

Marine Sanctuaries

These areas are administered by NOAA.

(1) NOAA has mapped the general locations of National Marine Sanctuaries. Contact NOAA's Office of Ocean and Coastal Resource Management at (202) 606-4126 for copy of this map. Table D-9 provides a listing of the nautical chart numbers of all of the National Marine Sanctuaries.

(2) National Marine Sanctuaries will be delineated on the appropriate nautical chart(s) available from the NOAA's Document Distribution Office at (301) 436-6990 and from various commercial stores specializing in marine recreation (e.g., boating, fishing).

(3) If further information is needed to delineate a National Marine Sanctuary, contact NOAA's Office of Ocean and Coastal Resource Management at (202) 606-4126.

National River Reaches Designated as Recreational

See subsection above, Federal Designated Wild or Scenic River.

Sensitive Areas Identified Under the National Estuary Program or Near Coastal Waters Program

This environmentally sensitive area category includes areas identified in both the National Estuary Program and the Near Coastal Waters Program. Both programs are administered by EPA.

(1) Table D-10 identifies the components of the National Estuary Program for each EPA Region. Contact the appropriate office to delineate the estuary program component in question.

(2) Table D-7 lists the EPA Regional contacts for the Near Coastal Waters Program. Contact the appropriate office to delineate sensitive areas identified under the Near Coastal Waters Program. (Note that as of December 1991, no areas within the Near Coastal Waters Program had been designated as sensitive areas.)

(3) Other potential sources of information on estuaries and near coastal waters include EPA's Office of Marine and Estuarine Protection at (202) 260-7166 and Sea Grant program offices (located at major universities in coastal areas).

State Designated Wild or Scenic Rivers

These areas generally are administered by a State park service or natural resources agency.

(1) Maps or other documents that specify river reaches designated as State wild or scenic rivers may be available from a State park service, State natural resources agency or local outfitters.

(2) Contact NPS's Division of Recreation Resources Assistance, Washington, D.C. at (202) 343-3780 to obtain information on State systems.

(3) If no official maps or documents are available, request a signed statement from a responsible official of the appropriate Stat park service or natural resources agency to document the boundaries of State designated wild or scenic rivers.

Units of Coastal Barrier Resources System

The Coastal Barrier Resources System is administered by State coastal zone management agencies; maps that depict the system are maintained by USFWS.

(1) All units of the Coastal Barrier Resources System are listed in Part VI of the June 6, 1991 *Federal Register*, which contains an index to the map series entitled *Coastal Barrier Resources System*, numbered A01 through T12 (excluding maps T02 and T03), and the maps designated T02A and T03A.

(2) Using the index referenced in Step (1), obtain the appropriate map from the USGS Book Sales Office at (303) 236-7476, or order them using the order form provided in the *Federal Register* notice. Alternatively, maps covering a particular State are available for inspection at selected regional and field USFWS offices listed in the *Federal Register* notice and at the State coastal zone management agency.

(3) After May 15, 1992, no units will be added to the Coastal Barrier Resource System; however, individual units may change in size or location due to natural forces (e.g., wave action). If any major natural changes have occurred in the coastal barrier since the map was published, contact the State coastal zone management agency or USFWS.

Waterfowl Management Areas

These areas generally are administered by a State wildlife agency. Maps or other

documents that specify areas designated as State Waterfowl Management Areas may be available from the State wildlife agency, State park service, or State natural resources agency.

Wetlands

(1) The preferred maps are the NWI Maps or State maps of equivalent quality (e.g., Wisconsin). NWI maps are available from USGS Earth Science Information Centers listed in Table D-1. The availability of State maps must be determined on a State-by-State basis.

(2) USGS topographic maps or wetlands maps provided by the SCS can be used to approximate wetlands boundaries. USGS topographic maps are available from USGS Earth Science Information Centers (see Table D-1), most outdoors sport stores, and local outfitters. SCS maps are available from each State office of the SCS. Note also that SCS maps often err on the side of listing areas as wetlands that are not actually wetlands.

(3) Other wetlands maps can be used to verify wetlands boundaries.

- The USFWS Small Wetlands Acquisition Program protects prairie potholes and other small wetlands important for waterfowl production and may have maps.
- USGS has computerized maps delineating wetlands in Alabama, Florida, North Carolina, and Texas.
- BIA has delineated 400,000 acres of wetlands on Native American reservations in Minnesota and Wisconsin.
- Wetlands maps are included in North American Waterfowl Management Plans.
- Other contacts include: the Isaac Walton League, Ducks Unlimited, Trout Unlimited, and The Wilderness Society.

(4) If an even greater level of detail is required to verify the presence of a wetland and determine its length (or perimeter), a wetlands expert should be contacted. These other contacts include:

- The U.S. Army Corps of Engineers Civil Works district offices and EPA regional offices (see Table D-11) have wetlands experts who deal with permitting issues under Section 404 of the Clean Water Act.
- State soil and water conservation offices often have wetlands experts who deal with various permitting and regulatory issues.

ENVIRONMENTALLY SENSITIVE AREAS REQUIRING PROFESSIONAL JUDGEMENT

Several categories of environmentally sensitive areas generally are not delineated on maps or otherwise described in specialized publications. Identifying and delineating these environmentally sensitive areas generally will require professional judgment. Categories of environmentally sensitive areas in this group include:

- Coastal Barriers
- Habitats Used by a Federal Designated or Proposed Endangered or Threatened Species
- Habitats Used by a Species under Review as to its Federal Endangered or Threatened Status

- Habitats Known to be Used by a State Designated Endangered or Threatened Species

- Wetlands (in some cases)

The assistance of appropriate Federal, State, or local agencies or experts in identifying these environmentally sensitive areas is encouraged. The facility owner should try to obtain copies of any published information that helps to establish the area as an environmentally sensitive area and/or delineate its boundaries. Below, the names of the agencies responsible for administering each of these areas is provided along with sources of information. However, these sources of information are not exhaustive and focus primarily on the national level.

Coastal Barriers

Undeveloped and partially developed coastal barriers are generally administered by a State coastal zone management agency or by EPA's Near Coastal Waters Program.

(1) If the coastal barrier is publicly owned and administered by a State coastal zone management agency or a Federal agency, contact the appropriate agency for assistance in determining land uses on the coastal barrier.

(2) Other sources of information for undeveloped and partially developed coastal barrier areas include aerial photographs, flood hurricane insurance maps, developers, real estate agents, and planning commissions. Alternatively, the regional contacts for the Near Coastal Waters Program (Table D-7) may be able to provide assistance in determining land uses on the particular coastal barrier.

Habitats Used by Federal Designated or Proposed Endangered or Threatened Species

Endangered or threatened fish, wildlife, and plan species fall under the jurisdiction of USFWS. Endangered or threatened marine animals (e.g., marine mammals, sea turtles) fall under the jurisdiction of NMFS.

(1) All Federal designated endangered or threatened species are listed in 50 CFR 17.11 (fauna) and 17.12 (flora) or in a *Federal Register* notice. Species proposed by the Secretary of the Interior for designation as Federal endangered or threatened species are published in the *Federal Register*. To obtain current lists of designated and proposed Federal endangered or threatened species, contact the appropriate USFWS regional office listed in Table D-3 or NMFS's Office of Protected Resources at (301) 427-2322.

(2) A number of sources can provide assistance in determining whether habitat known to be used by any of the species identified in Step (1) is within the calculated distance form the facility. They include: State fish and game wildlife, natural resource, or environmental conservation agency, the State Natural Heritage program, other local or regional experts (e.g., faculty members at a nearby university, members of the local Audubon society), the appropriate USFWS regional office and/or NMFS at (301) 427-2322.

Habitats Used by State Designated Endangered or Threatened Species

A number of agencies can provide assistance to identify and delineate this environmentally sensitive area category. They include: the State fish and game or wildlife, natural resource, or environmental conservation agency, other local or regional experts (e.g., faculty members at a nearby university, members of the

local Audubon society), and/or the appropriate USFWS regional office. Note that the USFWS Small Wetlands Acquisition Program protects prairie potholes and other small wetlands important for waterfowl production.

Table D-1
U.S. GEOLOGICAL SURVEY EARTH SCIENCE
INFORMATION CENTER OFFICES

ESIC Office	Address	Telephone
Virginia (National Headquarters)	Earth Science Information Center USGS 507 National Center Reston, VA 22092	1-800-USA-MAPS or (703) 648-6045
Alaska	Earth Science Information Center USGS 4230 University Dr., Room 101 Anchorage, AK 99508-4664	(907) 786-7011
California	Western Mapping Center USGS 345 Middlefield Rd. MS 532 Menlo Park, CA 94025	(415) 329-4309
Colorado	Rocky Mountain Mapping Center-ESIC USGS Box 25046, Stop 504 Federal Center Denver, CO	(303) 236-5829
Mississippi	Earth Science Information Center USGS Building 3101 Stennis Space Center, MS 39529	(601) 688-3544
Missouri	Mid-Continent Mapping Center-ESIC USGS 1400 Independence Rd. MS 231 Rolla, MO 65401	(314) 341-0851
South Dakota	USGS EROS Data Center Mundt Federal Building Sioux Falls, SD 57198	(605) 594-6161

Table D-2
U.S. NATIONAL PARK SERVICE
REGIONAL OFFICES

Region	Regional Office Address	Telephone	States
North Atlantic	15 State St. Boston, MA 02109	(617) 223-5200	CT, MA, ME, NH, NJ, NY, RI, VT
Mid-Atlantic	143 S. 3rd Street Philadelphia, PA 19106	(215) 597-7013	PA, DE, MD, WV, VA, DC
Southeast	75 Spring St. Atlanta, GA 30303	(404) 331-4998	KY, TN, NC, SC, GA, AL, MS, FL; Puerto Rico, Virgin Islands
Midwest	1709 Jackson St. Omaha, NE 68102	(402) 221-3471	MN, WI, IA, MS, IL, IN, OH, MI, NE, KS
Rocky Mountain	P.O. Box 25287 Denver, CO 80225	(303) 969-2100	MT, ND, SD, WY, UT, CO
Southwest	P.O. Box 728 Santa Fe, NM 87504-0728	(505) 988-6012	NM, OK, TX, AR, LA
Western	600 Harrison St. Suite 600 San Francisco, CA 94107	(415) 745-3955	CA, NV, AZ, HI, Guam Am. Samoa
Pacific Northwest	83 S. King St. Suite 212 Seattle, WA 98104	(206) 553-5565	WA, OR, ID
Alaska	2525 Gamble St. Anchorage, AK 99503	(907) 257-2687	AK

Table D-3
U.S. FISH AND WILDLIFE SERVICE
REGIONAL OFFICES

Region	Address	Telephone	States
1	911 NE 11th Ave Portland, OR 97232-4181	(503) 231-6118	WA, OR, ID, NV, CA, HI
2	P.O. Box 1306 500 Gold Ave. SW Room 3018 Albuquerque, NM 87103	(505) 766-2321	AZ, NM, TX, OK
3	Whipple Federal Building 1 Federal Dr. Fort Snelling, MN 55111	(612) 725-3502	MN, IA, MS, WI, IL, MI, IN, OH
4	Richard B. Russell Federal Building Room 1200 75 Spring St. SW Atlanta, GA 30303	(404) 331-3588	KY, TN, AR, LA, MS, AL, GA, FL, SC, NC, Puerto Rico, Virgin Islands
5	One Gateway Center Suite 700 Newton Corner, MA 02158	(617) 965-5100	ME, VT, NH, MA, RI, CT, NY, NJ, PA, WV, VA, DC, DE, MD
6	P.O. Box 25486 Denver Federal Center Denver, CO 80225	(303) 236-7920	MT, WY, CO, ND, SD, NE, KS, UT
1	1011 East Tudor Rd. Anchorage, AK 99503	(907) 786-3542	AK
8	1849 C St. SW MS 725 - ARLSQ Washington, DC 20240	(703) 358-1801	

Table D-4
U.S. BUREAU OF LAND MANAGEMENT STATE OFFICES

State	Address	Telephone
Alaska	222 West 7th Ave. #13 Anchorage, AK 99513-7599	(907) 271-5076
Arizona	3707 North 7th St. Phoenix, AZ 85011	(602) 640-5501
California	2800 Cottage Way Sacramento, CA 95825	(916) 978-4743
Colorado	2850 Youngfield St. Lakewood, CO 80215	(303) 239-3700
Eastern States Office	350 South Pickett St. Alexandria, VA 22304	(703) 461-1400
Idaho	3380 Americana Terrace Boise, ID 83706	(208) 384-3001
Montana	P.O. Box 36800 Billings, MT 59107	(406) 255-2904
Nevada	P.O. Box 1200 Reno, NV 89520-7115	(505) 438-7400
New Mexico	P.O. Box 27115 Santa Fe, NM 87502-7115	(505) 438-7400
Oregon	P.O. Box 2965 Portland, OR 97208	(503) 280-7026
Utah	324 South State St. Salt Lake City, UT 84111-2303	(801) 539-4010
Wyoming	P.O. Box 1828 Cheyenne, WY 82003	(307) 775-6001

Table D-5
U.S. NATIONAL FOREST SERVICE REGIONS

Region	Address	Telephone	State
Northern (region 1)	P.O. Box 7669 Missoula, MT 59807	(406) 329-3316	MT, ND
Rocky Mountain (region 2)	P.O. Box 25127 Denver, CO 80225	(303) 236-9427	WY, CO, SD, NE, KS
Southwestern (region 3)	Federal Building 517 Gold Ave. SW Albuquerque, NM 87102	(505) 842-3300	AZ, NM
Intermountain (region 4)	Federal Building 324 25th St. Ogden, UT 84401	(801) 625-5352	ID, UT, NV
Pacific Southwest (region 5)	630 Sansome St. San Francisco, CA 94111	(415) 705-2870	CA, HI
Southern (region 8)	1720 Peachtree Rd. NW Atlanta, GA 30367	(404) 347-4177	TX, OK, AR, LA, MS, KY, TN, AL, VA, NC, SC, GA, FL, Puerto Rico, Virgin Islands
Eastern (region 9)	310 West Wisconsin Ave. Room 500 Milwaukee, WI 53203	(414) 297-3693	MN, IA, MO, WI, IL, MI, IN, OH, WV, ME, VT, NH, MA, RI, CT, NJ, DE, MD, NY, PA
Alaska (region 10)	P.O. Box 21628 Juneau, AK 99802	(907) 586-8863	AK

Note: Not all Forest Service regional boundaries follow state boundaries. States listed are accurate for the majority of the states.

Table D-6
NATIONAL ESTUARINE RESEARCH RESERVE SYSTEM

Project Name	Address	Status	Phone
Ahepoo-Combahee-Edisto Basin	ACE Basin S. Carolina Wildlife & Marine Resource Center P.O. Box 12559 Charleston, SC 29412	Proposed	(803) 762-5052
Apalachicola	Apalachicola National Estuarine Research Reserve System 261 7th Street Apalachicola, FL 32320	Designated	(904) 653-8063
Chesapeake Bay (VA)	Virginia Institute of Marine Sciences P.O. Box 1346 Gloucester Point, VA 23062	Proposed	(804) 642-7135
Cheaspeake Bay (MD)	Dept. of Natural Resources Tidewater Admin. Coastal Resources Division CBNERR/MD Towes State Office Bldg B-3 580 Taylor Ave. Annapolis, MD 21401	Designated	(410) 974-2784
Delaware	Delaware Estuarine Reserve 89 Kings Highway P.O. Box 1401 Dover, DE 19903	Proposed	(302) 739-3091
Elkhorn Slough	Elkhorn Slough Reserve 1700 Elkhorn Rd. Watsonville, CA 95076	Designated	(408) 728-2822
Great Bay	New Hampshire Fish and Game Department 37 Concord Rd. Durham, NH 03824	Designated	(603) 868-1095
Hudson River	Hudson River National Estuarine Research Reserve c/o Bard College P.O. Box 67 Annandale-on-Hudson, NY 12505	Designated	(914) 758-5193
Jobos Bay	Jobos Bay Estuarine Reserve P.O. Box 1170 Guayama, PR 20785	Designated	(809) 864-0105
Narragansett Bay	Narragansett Bay National Estuarine Research Reserve Department of Environmental Mgmt. 22 Hayes St. Providence, RI 02908	Designated	(401) 683-6780
North Carolina	Center for Marine Research 7205 Wrightsville Ave. Wilmington, NC 28403	Designated	(919) 256-3721
North Inlet-Winyah bay	Baruch Marine Lab P.O. Box 1630 Georgetown, SC 29442	Proposed	(803) 546-3626
Old Woman Creek	Old Woman Creek 2514 Cleveland Rd. East Huron, OH 44839	Designated	(419) 433-4601
Padilla Bay	Padilla Bay 1043 Bayview-Edison Rd. Mt. Vernon, WA 98273	Designated	(206) 428-1558

Table D-6
NATIONAL ESTUARINE RESEARCH RESERVE SYSTEM

Project Name	Address	Status	Phone
Rookery Bay	Rookery Bay 10 Shell Island Rd. Naples, FL 33962	Designated	(813) 775-8845
St. Lawrence River Basin	St. Lawrence Eastern Ontario Commission 317 Washington St. Watertown, NY 13601	Proposed	(315) 785-2460
Sapelo Island	Department of Natural Resources P.O. Box 15 Sapelo Island, GA 31327	Designated	(912) 485-2251
South Slough	South Slough P.O. Box 5417 Charlestown, OR 97420	Designated	(503) 888-5558
Tijuana River	Tijuana River 301 Caspian Way Imperial Beach, CA 9132	Designated	(619) 575-3613
Waimanu Valley	Dept. of Land and Natural Resources Division of Forestry & Wildlife 567 King St. Room 132 Honolulu, HI 96813	Designated	(808) 587-0054
Waquoit Bay	Waquoit Bay (WBNERR) P.O. Box 3092 Waquoit, MA 02536	Designated	(508) 457-0495
Weeks Bay	Weeks Bay Estuarine Research Reserve 10936-B US Highway 98 Fairhope, AL 36532	Designated	(205) 928-9792
Wells	Wells Estuarine Reserve RR 2 Box 806 Wells, ME 04090	Designated	(207) 646-1555

Table D-7
NEAR COASTAL WATERS PROGRAM EPA REGIONAL CONTACTS

EPA Region	Address	Telephone
Headquarters	401 M Street SW Washington, DC 20036	(202) 260-5554
1	JFK Federal Building (WQE-425) Boston, MA 12203	(617) 565-4870
2	Marine and Wetland Protection Branch 26 Federal Plaza New York, NY 10278	(212) 264-5170
3	Marine and Estuary Section 841 Chestnut St. Philadelphia, PA 19104	(215) 597-9589
4	Coastal Planning Unit 345 Courtland St. NE Atlanta, GA 30365	(404) 347-1740
5	Water Division 77 West Jackson Boulevard (WQ-16J) Chicago, IL 60604	(312) 353-2079
6	Marine and Estuary Section 1445 Ross Avenue Suite 1200 Dallas, TX 75202	(214) 655-6680
9	Wetland and Coastal Planning Section 75 Hawthorne St. San Francisco, CA 94105	(415) 744-1974
10	Office of Coastal Waters 1200 6th Ave. Seattle, WA 98101	(206) 553-0966

Table D-8
EPA REGIONAL CLEAN LAKES PROGRAM OFFICES

EPA Region	Address	Telephone
1	JFK Federal Building Boston, MA 02203	(617) 565-3515
2	26 Federal Plaza New York, NY 10278	(212) 264-8708
3	841 Chestnut St. Philadelphia, PA 19107	(2115) 597-3429
4	345 Courtland St. Atlanta, GA 30365	(404) 347-2126
5	230 South Dearborn St. Chicago, IL 60604	(312) 886-0209
6	First Interstate Bank Tower 1445 Ross Avenue Dallas, TX 75202	(214) 655-7140
7	726 Minnesota Ave. Kansas City, KS 66101	(913) 551-7500
8	One Denver Place 999 18th St, Suite 500 Denver, CO 80202-2406	(303) 293-1574
9	75 Hawthorne Street San Francisco, CA 94105	(415)744-2018
10	1200 Sixth Ave. Seattle, WA 98101	(206) 553-6911

Table D-9
NAUTICAL CHART NUMBERS FOR MARINE SANCTUARIES

National Marine Sanctuary	State or Territory	Nautical Chart Number
Monitor	NC	12200 13003 11009
Grays Reef	GA	11009 11480
Florida Keys	FL	111013 411 11450
Key Largo	FL	111013 411 11450
Looe Key	FL	111013 411 11450 11434 11420
Cordell Banks	CA	18640
Gulf of the Farallones	CA	18640 18680 18645
Channel Islands	CA	18740 18727 (San Miguel Pass) 18728 (Santa Cruz Channel) 18729 (Anacapa Pass) 18756 (Santa Barbara Island) 18755 (San Nicolos Island)
Fagatele Bay	American Samoa	83484

Note: Nautical chart numbers are provided by NOAA for ordering purposes. The numbers may represent categories of charts rather than individual charts.

Table D-10
NATIONAL ESTUARY PROGRAM INFORMATION SOURCES

Headquarters address for all projects: OCPD, U.S. EPA, 401 M Street SW, Washington, DC 20460

Project Name (EPA Region)	Phone Number (at Headquarters)
Buzzards Bay (1)	(202) 260-9176
Casco Bay (1)	(202) 260-9176
Long Island Sound (1)	(202) 260-9176
Massachusetts/Cape Cod Bays (1)	(202) 260-6504
Narragansett Bay (1)	(202) 260-6466
Delaware Bay (2)	(202) 260-9799
Long Island Sound (2)	(202) 260-9176
New York/New Jersey Harbor (2)	(202) 260-6779
Delaware Bay (3)	(202) 260-6466
Delaware Inland Bays (3)	(202) 260-9799
Albemarle-Pamlico Sounds (4)	(202) 260-9137
Indian River Lagoon (4)	(202) 260-9038
Sarasota Bay (4)	(202) 260-9137
Tampa Bay (4)	(202) 260-9137
Barrataria-Terrebone Estuarine Complex (4)	(202) 260-6467
Galveston Bay (6)	(202) 260-6467
San Francisco Bay (9)	(202) 260-9038
Santa Monica Bay (9)	(202) 260-9038
Puget Sound (10)	(202) 260-9038

Table D-11
EPA REGIONAL OFFICES

EPA Region	Address	Telephone
1	JFK Federal Building Boston, MA 02203	(617) 565-3420
2	26 Federal Plaza New York, NY 10278	(212) 264-2657
3	841 Chestnut St. Philadelphia, PA 19107	(215) 597-9800
4	345 Courtland St. Atlanta, GA 30365	(404) 247-4727
5	230 South Dearborn St. Chicago, IL 60604	(312) 353-2000
6	First Interstate Bank Tower 1445 Ross Avenue Dallas, TX 75202	(214) 655-6444
7	726 Minnesota Ave. Kansas City, KS 66101	(913) 551-7000
8	One Denver Place 999 18th St, Suite 500 Denver, CO 80202-2406	(303) 293-1603
9	75 Hawthorne Street San Francisco, CA 94105	(415) 744-1180
10	1200 Sixth Ave. Seattle, WA 98101	(206) 442-1200

APPENDIX E: MATERIAL SAFETY DATA SHEETS

DOD Hazardous Materials Information System
DoD 6050.5-L

AS OF NOVEMBER 1991

FSC: 9130
NIIN: 012720983
Manufacturer's CAGE: 0BDU2
Part No. Indicator: A
Part Number/Trade Name: MIDGRADE UNLEADED 89 OCTANE

General Information

Item Name: GASOLINE, UNLEADED
Manufacturer's Name: COASTAL EAGLE POINT OIL CO
Manufacturer's Street: 9 GREENWAY PLAZA
Manufacturer's P. O. Box:
Manufacturer's City: HOUSTON
Manufacturer's State: TX
Manufacturer's Country: US
Manufacturer's Zip Code: 77046
Manufacturer's Emerg Ph #: 713-877-1400
Manufacturer's Info Ph #: 713-877-1400
Distributor/Vendor # 1:
Distributor/Vendor # 1 Cage:
Distributor/Vendor # 2:
Distributor/Vendor # 2 Cage:
Distributor/Vendor # 3:
Distributor/Vendor # 3 Cage:
Distributor/Vendor # 4:
Distributor/Vendor # 4 Cage:
Safety Data Action Code:
Safety Focal Point: D
Record No. For Safety Entry: 002
Tot Safety Entries This Stk#: 009
Status: SE
Date MSDS Prepared: 30APR90
Safety Data Review Date: 15AUG91
Supply Item Manager: KY
MSDS Preparer's Name: DELAND D. MALZAHN
Preparer's Company:
Preparer's St Or P. O. Box:
Preparer's City:
Preparer's State:
Preparer's Zip Code:
Other MSDS Number:
MSDS Serial Number: BKLWL
Specification Number: VV-G-1690
Spec Type, Grade, Class:
Hazard Characteristic Code: F2
Unit Of Issue: GL
Unit Of Issue Container Qty:
Type Of Container:
Net Unit Weight:
NRC/State License Number: N/R
Net Explosive Weight:
Net Propellant Weight-Ammo: N/R
Coast Guard Ammunition Code:

Ingredients/Identity Information

Proprietary: NO
Ingredient: GASOLINE
Ingredient Sequence Number: 01
Percent: 100
Ingredient Action Code:
Ingredient Focal Point: D
NIOSH (RTECS) Number: LX3300000
CAS Number: 8006-61-9
OSHA PEL: 300 PPM/500 STEL
ACGIH TLV: 300 PPM/500STEL;9192
Other Recommended Limit: NONE SPECIFIED

Proprietary: NO
Ingredient: BENZENE (SARA III)
Ingredient Sequence Number: 02
Percent: 0-5.0
Ingredient Action Code:
Ingredient Focal Point: D
NIOSH (RTECS) Number: CY1400000
CAS Number: 71-43-2
OSHA PEL: 1PPM/5STEL;1910.1028
ACGIH TLV: 10 PPM; A2; 9192
Other Recommended Limit: NONE SPECIFIED

Proprietary: NO
Ingredient: ETHYL BENZENE (SARA III)
Ingredient Sequence Number: 03
Percent: 0.0-5.0
Ingredient Action Code:
Ingredient Focal Point: D
NIOSH (RTECS) Number: DA0700000
CAS Number: 100-41-4
OSHA PEL: 100 PPM/125 STEL
ACGIH TLV: 100 PPM/125STEL 9192
Other Recommended Limit: NONE SPECIFIED

Proprietary: NO
Ingredient: XYLENES (O-,M-,P- ISOMERS) (SARA III)
Ingredient Sequence Number: 04
Percent: 0-25
Ingredient Action Code:
Ingredient Focal Point: D
NIOSH (RTECS) Number: ZE2100000
CAS Number: 1330-20-7
OSHA PEL: 100 PPM/150 STEL
ACGIH TLV: 100 PPM/150STEL;9192
Other Recommended Limit: NONE SPECIFIED

Proprietary: NO
Ingredient: HEXANE (N-HEXANE)
Ingredient Sequence Number: 05
Percent: <3.3
Ingredient Action Code:
Ingredient Focal Point: D

S Number: 110-54-3
HA PEL: 50 PPM
GIH TLV: 50 PPM; 9192
her Recommended Limit: NONE SPECIFIED
---
oprietary: NO
gredient: HEXANE ISOMERS (OTHER THAN N-HEXANE)
gredient Sequence Number: 06
rcent: <8.0
gredient Action Code:
gredient Focal Point: D
OSH (RTECS) Number: 1002929HI
S Number: N/K
HA PEL: 500 PPM
GIH TLV: 500 PPM
her Recommended Limit: NONE SPECIFIED
---
roprietary: NO
ngredient: 1,2,4-TRIMETHYLBENZENE (SARA III)
ngredient Sequence Number: 07
ercent: 0.0-5.0
ngredient Action Code:
ngredient Focal Point: D
IOSH (RTECS) Number: DC3325000
AS Number: 95-63-6
SHA PEL: 25 PPM
CGIH TLV: 25 PPM; 9192
ther Recommended Limit: NONE SPECIFIED
---
roprietary: NO
ngredient: TOLUENE (SARA III)
ngredient Sequence Number: 08
ercent: 0.0-25
ngredient Action Code:
ngredient Focal Point: D
IOSH (RTECS) Number: XS5250000
AS Number: 108-88-3
SHA PEL: 100 PPM/150 STEL
CGIH TLV: 100 PPM/150STEL;9192
ther Recommended Limit: NONE SPECIFIED
---
roprietary: NO
ngredient: CUMENE (SARA III)
ngredient Sequence Number: 09
ercent: 1.0-2.0
ngredient Action Code:
ngredient Focal Point: D
IOSH (RTECS) Number: GR8575000
AS Number: 98-82-8
SHA PEL: S, 50 PPM
CGIH TLV: S, 50 PPM; 9192
ther Recommended Limit: NONE SPECIFIED
---
roprietary: NO
ngredient: BUTANE
ngredient Sequence Number: 10

Percent: <9.0
Ingredient Action Code:
Ingredient Focal Point: D
NIOSH (RTECS) Number: EJ4200000
CAS Number: 106-97-8
OSHA PEL: 800 PPM
ACGIH TLV: 800 PPM; 9192
Other Recommended Limit: NONE SPECIFIED

Proprietary: NO
Ingredient: PENTANE
Ingredient Sequence Number: 11
Percent: <4.7
Ingredient Action Code:
Ingredient Focal Point: D
NIOSH (RTECS) Number: RZ9450000
CAS Number: 109-66-0
OSHA PEL: 600 PPM/750 STEL
ACGIH TLV: 600 PPM/750STEL;9192
Other Recommended Limit: NONE SPECIFIED

Proprietary: NO
Ingredient: TERT-BUTYL ALCOHOL (SARA III)
Ingredient Sequence Number: 12
Percent: 0-10
Ingredient Action Code:
Ingredient Focal Point: D
NIOSH (RTECS) Number: EO1925000
CAS Number: 75-65-0
OSHA PEL: 100 PPM/150 STEL
ACGIH TLV: 100PPM/150STEL; 9192
Other Recommended Limit: NONE SPECIFIED

Proprietary: NO
Ingredient: METHYL TERT-BUTYL ETHER (SARA III)
Ingredient Sequence Number: 13
Percent: 0-15
Ingredient Action Code:
Ingredient Focal Point: D
NIOSH (RTECS) Number: KN5250000
CAS Number: 1634-04-4
OSHA PEL: NOT ESTABLISHED
ACGIH TLV: NOT ESTABLISHED
Other Recommended Limit: NONE SPECIFIED
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Physical/Chemical Characteristics

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Appearance And Odor: BRONZE COLORED CLEAR LIQUID WITH CHARATERISTIC GASOLINE ODOR
Boiling Point: 80.0F,26.7C
Melting Point: N/K
Vapor Pressure (MM Hg/70 F): 325-525MM
Vapor Density (Air=1): 3-4
Specific Gravity: 0.70-0.77
Decomposition Temperature: UNKNOWN
Evaporation Rate And Ref: <1 (ETHER=1)
Solubility In Water: NEGLIGIBLE

Percent Volatiles By Volume: 100
Viscosity: 1.4 CST
pH: N/R
Radioactivity:
Form (Radioactive Matl):
Magnetism (Milligauss):
Corrosion Rate (IPY): UNKNOWN
Autoignition Temperature: 495F

Fire and Explosion Hazard Data

Flash Point: <-45F,<-43C
Flash Point Method: TCC
Lower Explosive Limit: 1.4%
Upper Explosive Limit: 7.6%
Extinguishing Media: USE CARBON DIOXIDE, FOAM, OR DRY CHEMICAL. USE WATER FOG TO COOL SRROUNDING CONTAINERS.
Special Fire Fighting Proc: WEAR FIRE FIGHTING PROTECTIVE EQUIPMENT AND A FULL FACED SELF CONTAINED BREATHING APPARATUS. EVACUATE AREA. COOL FIRE EXPOSED CONTAINERS WITH WATER SPRAY.
Unusual Fire And Expl Hazrds: VAPORS HEAVIER THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO SOURCE OF IGNITION AND FLASH BACK.

Reactivity Data

Stability: YES
Cond To Avoid (Stability): HIGH HEAT, OPEN FLAMES AND OTHER SOURCES OF IGNITION
Materials To Avoid: STRONG OXIDIZING AGENTS
Hazardous Decomp Products: CARBON MONOXIDE, CARBON DIOXIDE AND OTHER HYDROCARBON COMPOUNDS DURING COMBUSTION.
Hazardous Poly Occur: NO
Conditions To Avoid (Poly): NOT APPLICABLE

Health Hazard Data

LD50-LC50 Mixture: ORAL LD50 (RAT) IS UNKNOWN
Route Of Entry - Inhalation: YES
Route Of Entry - Skin: YES
Route Of Entry - Ingestion: YES
Health Haz Acute And Chronic: ACUTE-INHALATION:CENTRAL NERVOUS SYSTEM DEPRESSION, HEADACHE, NAUSEA, DIZZINESS, FATIGUE, NARCOSIS, UNCONSCIOUSNESS, ASPHYXIATION. EYE:IRRITATION. SKIN:DEFATING, IRRITATION/ DERMATITIS. INGESTION: GI DISTURBANCES, NAUSEA, VOMITING. CHRONIC: DERMATITIS, PNEUMOTITIS, PULMONARY EDEMA, AND KIDNEY DAMAGE.
Carcinogenicity - NTP: YES
Carcinogenicity - IARC: YES
Carcinogenicity - OSHA: YES
Explanation Carcinogenicity: BENZENE IS LISTED AS A CARCINOGEN NTP, IARC, OSHA AND EPA.
Signs/Symptoms Of Overexp: OVEREXPOSURE MAY LEAD TO RESPIRATORY IRRITATION, NAUSEA, FATIGUE, DIZZINESS, HEADACHES, UNCONSCIOUSNESS, AND EY IRRITATION.
Med Cond Aggravated By Exp: PERSONS WITH A SKIN DISORDER SHOULD USE CAUTION WHEN HANDLING OR USING THIS PRODUCT.
Emergency/First Aid Proc: SKIN: REMOVE CONTAMINATED CLOTHING. WASH WITH SOAP AND WATER. GET MEDICAL ATTENTION IF IRRITATION PERSISTS. INHALATION:

REMOVE TO FRESH AIR & RESTORE BREATHING IF ABSENT. SKIN: WASH WITH SOAP & WATER. GET MEDICAL ATTENTION. EYE: IMMEDIATELY FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION. INGESTION: GET IMMEDIATE MEDICAL ATTENTION. DO NOT INDUCE VOMITING. NOTHING BY MOUTH IF UNCONSCIOUS.

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: MINOR: ABSORB MATERIAL WITH CLAY, VERMICULITE, OR SIMILAR ABSORBENT MATERIAL. PLACE IN DISPOSAL CONTAINERS. MAJOR: DIKE & CONTAIN SPILL. ELIMINATE SOURCES OF IGNITION. SHUT OFF LEAKS. REMOVE LIQUID BY VACUUM OR ABSORBENT.

Neutralizing Agent: NOT APPLICABLE

Waste Disposal Method: WASTE MAY BE BURNED IN AN APPROVED INCINERATOR OR DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS.

Precautions-Handling/Storing: STORE IN A COOL, VENTILATED WORK AREA. KEEP CONTAINERS CLOSED WHEN NOT IN USE. FLAMMABLE LIQUID; EMPTY CONTAINERS CAN BE HAZARDOUS.

Other Precautions: THE SELECTION OF PERSONAL PROTECTIVE EQUIPMENT SHOULD BE MADE BY THE MATERIAL USER BASED ON THE PARTICULAR CONDITIONS WHERE THE MATERIAL IS TO BE USED TOGETHER WITH INFORMATION CONTAINED IN THIS MSDS.

Control Measures

Respiratory Protection: USE NIOSH/MSHA APPROVED RESPIRATOR. AIR-SUPPLIED OR FILTERING TYPE WITH ORGANIC VAPOR CARTRIDGES ARE RECOMMENDED.

Ventilation: LOCAL AND MECHANICAL EXHAUST RECOMMENDED. AVOID OPEN ELECTRICAL SOURCES NEAR PRODUCT VAPOR AREAS.

Protective Gloves: NEOPRENE, NITRILE, OR POLYVINYL ALCOHOL

Eye Protection: USE CHEMICAL SAFETY GOGGLES & FACESHIELD

Other Protective Equipment: EYE WASH STATION & SAFETY SHOWER.

Work Hygienic Practices: DO NOT TAKE INTERNALLY. AVOID SKIN CONTACT. WASH SKIN AFTER USING PRODUCT. DO NOT EAT, DRINK OR SMOKE IN WORK AREA.

Suppl. Safety & Health Data: NONE

DOD Hazardous Materials Information System
DoD 6050.5-L
AS OF NOVEMBER 1991

FSC: 9130
NIIN: 002732379
Manufacturer's CAGE: 78628
Part No. Indicator: A
Part Number/Trade Name: JP-5 TURBINE FUEL, MIL-T-5624

General Information

Item Name:
Manufacturer's Name: SUN REFINING AND MARKETING COMPANY,SUN OIL CO
Manufacturer's Street: 100 MATSONFORD RD
Manufacturer's P. O. Box:
Manufacturer's City: RADNOR
Manufacturer's State: PA
Manufacturer's Country: US
Manufacturer's Zip Code: 19087-4514
Manufacturer's Emerg Ph #:
Manufacturer's Info Ph #:
Distributor/Vendor # 1:
Distributor/Vendor # 1 Cage:
Distributor/Vendor # 2:
Distributor/Vendor # 2 Cage:
Distributor/Vendor # 3:
Distributor/Vendor # 3 Cage:
Distributor/Vendor # 4:
Distributor/Vendor # 4 Cage:
Safety Data Action Code:
Safety Focal Point: N
Record No. For Safety Entry: 009
Tot Safety Entries This Stk#: 012
Status:
Date MSDS Prepared: PRE-HCS
Safety Data Review Date: 18AUG83
Supply Item Manager:
MSDS Preparer's Name:
Preparer's Company:
Preparer's St Or P. O. Box:
Preparer's City:
Preparer's State:
Preparer's Zip Code:
Other MSDS Number:
MSDS Serial Number: BDRZB
Specification Number: MIL-T-5624
Spec Type, Grade, Class:
Hazard Characteristic Code: F4
Unit Of Issue:
Unit Of Issue Container Qty:
Type Of Container:
Net Unit Weight:
NRC/State License Number: N/A
Net Explosive Weight:
Net Propellant Weight-Ammo: N/A
Coast Guard Ammunition Code:

Ingredients/Identity Information

Proprietary: NO
Ingredient: LIGHT PETOLEUM DISTILLATE
Ingredient Sequence Number: 01
Percent:
Ingredient Action Code:
Ingredient Focal Point: N
NIOSH (RTECS) Number: 1001292PD
CAS Number:
OSHA PEL:
ACGIH TLV: 200 PPM (MFR)
Other Recommended Limit:

Proprietary: NO
Ingredient: TRACE AMOUNTS OF ANTIOXIDANT,CORROSION INHABITOR I & DE-ICER ADDITIVES
Ingredient Sequence Number: 02
Percent:
Ingredient Action Code:
Ingredient Focal Point: N
NIOSH (RTECS) Number: 1000144AD
CAS Number:
OSHA PEL:
ACGIH TLV:
Other Recommended Limit:

Physical/Chemical Characteristics

Appearance And Odor: COLORLESS FLUID,LIGHT KEROSENE ODOR.
Boiling Point: 300-500F
Melting Point:
Vapor Pressure (MM Hg/70 F): 20
Vapor Density (Air=1): 5
Specific Gravity: 0.84
Decomposition Temperature:
Evaporation Rate And Ref: <1 ETHYL ETHER
Solubility In Water: NEGLIGIBLE
Percent Volatiles By Volume: 100
Viscosity:
pH:
Radioactivity:
Form (Radioactive Matl):
Magnetism (Milligauss):
Corrosion Rate (IPY):
Autoignition Temperature:

Fire and Explosion Hazard Data

Flash Point: 140 MINIMUM COC
Flash Point Method:
Lower Explosive Limit:
Upper Explosive Limit:
Extinguishing Media: WATER FOG,FOAM,CO*2 DRY CHEMICALS
Special Fire Fighting Proc: SELF-CONTAINED BREATHING GEAR
Unusual Fire And Expl Hazrds:

Reactivity Data

Stability: YES
Cond To Avoid (Stability):
Materials To Avoid: STRONG OXIDIZING AGENTS MAY IGNITE THIS PRODUCT
Hazardous Decomp Products: CARBON MONOXIDE AND ASPHYXIANTS
Hazardous Poly Occur: NO
Conditions To Avoid (Poly):

Health Hazard Data

LD50-LC50 Mixture:
Route Of Entry - Inhalation:
Route Of Entry - Skin:
Route Of Entry - Ingestion:
Health Haz Acute And Chronic:
Carcinogenicity - NTP:
Carcinogenicity - IARC:
Carcinogenicity - OSHA:
Explanation Carcinogenicity:
Signs/Symptoms Of Overexp: PULMONARY ASPIRATION HAZARD IF SWALLOWED. MILD TO MODERATE EYE IRRIT.SEE SUPP DATA
Med Cond Aggravated By Exp:
Emergency/First Aid Proc: INGESTN:DONT INDUCE VOMITNG.CALL MD IMMEDIATELY.DONT GIVE LIQUIDS.EYE:IMMEDIATELY FLUSH EYES W/WATER,@ LEAST 15 MIN.IFNECESSARY,CALL MD.SKIN:REMOVE SATURATED CLOTHING PROMPTLY,WASH SKIN W/SOAP & WATER.INHALATN:FRESH AIR,ARTFCL RESP IF NEC.CALL MD

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: PREVENT IGNITION.STOP LEAK.VENTILATE AREA. ABSORB EXCESS FLUID ON AN INERT ABSORBENT.
Neutralizing Agent:
Waste Disposal Method: CHEMICAL WASTE DISPOSAL IS GOVERNED BY THE RESOURCE CONSERVATION & RECOVERY ACT; AS WELL AS, BY OTHER LOCAL,STATE,AND FEDERALLAWS & REGULATIONS.
Precautions-Handling/Storing: HANDLE AS ABOVE.STORE PERNFPA CLASS IIIA. SEE LABELS ATTACHED TO PRODUCT.
Other Precautions:

Control Measures

Respiratory Protection: NIOSH/MSHA APPROVAL REQUIRED ON ANY RESPIRATORY EQUIPMENT USED.
Ventilation: AS KEEP AIRBORNE CONCENTRATIONS BELOW THE TLV.
Protective Gloves: IMPERVIOUS
Eye Protection: SPLASH-PROOF CHEM.GOGGLES
Other Protective Equipment: FULL FACESHIELD
Work Hygienic Practices:
Suppl. Safety & Health Data: VAPOR PRESSURE GIVEN @ 158F. PRODUCT IS DERMALLY ABSORBED BUTNOT EXPECTED TO BE TOXIC VIA THIS ROUTE.INHALETN:DIZZ, INCOORDNATN,LOSS OF BALANCE,POSSIBLE UNCONSCSNESS,COMA & RESPIRATRY FAILURE.

APPENDIX F:

COAST GUARD PLAN (33 CFR 150,154) CROSS-REFERENCED TO EPA PLAN (40 CFR 112)

COAST GUARD MARINE TRANSPORTATION RELATED FACILITY RESPONSE PLAN CONTENTS	EPA NON-TRANSPORTATION-RELATED FACILITY RESPONSE PLAN CONTENTS	
	SECTION	PAGE
INTRODUCTION AND PLAN CONTENT 33 CFR 154.1030	**WHO MUST PREPARE A FRP**	CHP 1
EMERGENCY RESPONSE ACTION PLAN 33 CFR 154.1035	**EMERGENCY RESPONSE ACTION PLAN** 40 CFR 112.20(h)(1)	12-1
QUALIFIED INDIVIDUAL	EMERGENCY RESPONSE COORDINATOR (Name and Phone Number)	2-A-1 3-C-1
NOTIFICATION PROCEDURES (LISTS OF CONTACTS)	EMERGENCY NOTIFICATION PHONE LIST(S) (Names and Phone Numbers of Federal Officials, Facility Responders, Company Responders, and Contracted Responders)	3-C-1
NOTIFICATION PROCEDURES (LISTS OF CONTACTS)	SPILL RESPONSE NOTIFICATION FORM	3-B-1
EQUIPMENT LISTS AND RECORDS	FACILITY EQUIPMENT LIST (with Locations)	3-E-1
LISTS OF CONTACTS (NOTIFICATION PROCEDURES)	FACILITY RESPONSE TEAM (Duties, Response Times, and Qualifications)	3-F-1
	EVACUATION PLAN(S) (Facility and Community; Condensed)	9-1
	EVACUATION ROUTES DIAGRAM	3-7 9-1
NOTIFICATION PROCEDURES	IMMEDIATE ACTIONS (Condensed)	3-B-1
	FACILITY DIAGRAM(S)	9-1
FACILITY SPECIFIC INFORMATION	**FACILITY INFORMATION** 40 CFR 112.20(h)(2)	CHP 2 2-1
FACILITY AND PLAN INFORMATION	FACILITY NAME, LOCATION, PHONE (Physical Address with Street Address, City or Directions from Nearest City, Borough, and Phone Number)	2-A-1
	LATITUDE AND LONGITUDE	2-A-1
SENSITIVE AREAS	WELLHEAD PROTECTION AREA (if appropriate)	2-A-1
	OWNER NAME AND ADDRESS (and Operator if different)	2-B-1

QUALIFIED INDIVIDUAL 33 CFR 154.1026	EMERGENCY RESPONSE COORDINATOR(S) (Name, Position, Address, Emergency Phone Number, and Training)	2-A-1
	YEAR OF OIL STORAGE START-UP	2-A-1
	CURRENT OPERATION (SIC and Brief Description of Operations)	2-A-1
	DATES AND TYPE OF SUBSTANTIAL EXPANSION	2-A-1
EMERGENCY RESPONSE ACTION PLAN	**EMERGENCY RESPONSE INFORMATION** 40 CFR 112.20(h)(3)	CHP 3 3-A-1
CONTACTS AND EQUIPMENT LISTS	WORST-CASE-RESPONSE PERSONNEL AND EQUIPMENT LISTS (Facility, Company, and Contracted Personnel and Equipment, including Description, Location, Operational Status, Testing Information, Capacities, Recoveries, and Limitations)	3-G-1 3-H-1 3-H-2 3-I-1
EVIDENCE OF AVAILABILITY 33 CFR 154.1028	EVIDENCE OF AVAILABILITY (Contracts or Other Approved Means)	3-6
NOTIFICATION PROCEDURES 33 CFR 154.1030	EMERGENCY NOTIFICATION PHONE LIST(S) (Names and Phone Numbers of Federal Officials, Facility Responders, Company Responders, and Contracted Responders)	3-C-1
NOTIFICATION PROCEDURES	SPILL RESPONSE NOTIFICATION FORM	3-B-1
EQUIPMENT LISTS AND RECORDS 33 CFR 154.1030	FACILITY, COMPANY, AND CONTRACTED RESPONDERS (Duties, Response Times, and Qualifications)	3-E - 3-J
EQUIPMENT LISTS AND RECORDS	FACILITY EQUIPMENT LIST (with Locations and Testing Information)	3-E-1
	EVACUATION PLAN(S) (Facility and Community)	3-7
	EVACUATION ROUTES DIAGRAM	3-7 9-1
QUALIFIED INDIVIDUAL RESPONSIBILITIES 33 CFR 154.1026	DUTIES OF EMERGENCY RESPONSE COORDINATOR (Alert All Facility Personnel, Notify Responders, Characterize Discharge, Notify Authorities, Assess Hazards, Assess and Implement Removal, Coordinate Response, Obtain Monies, and Direct Initial Cleanup)	3-J-1
RESPONSE EQUIPMENT 33 CFR 154.1035,1040	DETERMINATION OF REQUIRED RESPONSE RESOURCES	7-1 - 7-14
HAZARD EVALUATION (RESERVED)	**HAZARD EVALUATION** 40 CFR 112.20(h)(4)	CHP 4
	DISCHARGE HISTORY	4-7
SENSITIVE AREAS 33 CFR 154.1030	POTENTIAL DISCHARGES (Locations and Potential Environmental Effects)	4-12
	TANKS AND SURFACE IMPOUNDMENTS (with Labeled Schematic)	4-9
	TRANSFERS TO/FROM TRANSPORTATION VEHICLES AND VESSELS (Operational Description and Typical Volumes)	4-10
	DAY-TO-DAY OPERATIONS (Description of Operations Capable of Causing Discharges and Typical Volumes)	4-10

	SECONDARY CONTAINMENT VOLUMES	4-10
	NORMAL DAILY THROUGHPUT	4-10
SENSITIVE AREAS	VULNERABILITY ANALYSIS (Calculation of Planning Distance using Attachment 4-A and Potential Effects on Human Health, Property, and the Environment)	4-12
	ANALYSIS OF POTENTIAL DISCHARGES (Quantitative)	4-12
SPILL SCENARIOS (RESERVED)	**DISCHARGE SCENARIOS** 40 CFR 112.20(h)(5)	CHP 5
WORST CASE DISCHARGE 33 CFR 154.1029	WORST-CASE DISCHARGE SCENARIO (with Volume Calculation from Appendix E)	5-3
AVERAGE MOST PROBABLE DISCHARGE	SMALL DISCHARGE SCENARIO	5-4
MAXIMUM MOST PROBABLE DISCHARGE	MEDIUM DISCHARGE SCENARIO	5-4
	DISCHARGE DETECTION SYSTEMS 40 CFR 112.20(h)(6)	CHP 5
	DETECTION BY PERSONNEL (Procedures, Personnel, and Inspections)	6-1
	AUTOMATED DISCHARGE DETECTION EQUIPMENT	6-4
FACILITIES SPILL MITIGATION PROCEDURES **33 CFR 154.1030**	**PLAN IMPLEMENTATION** 40 CFR 112.20(h)(7)	CHP 7
FACILITY'S RESPONSE ACTIVITIES	IMPLEMENTATION OF RESPONSE ACTIONS	
RESPONSE EQUIPMENT	RESPONSE EQUIPMENT USED IN EACH SCENARIO	7-1
DISPOSAL PLAN	DISPOSAL PLAN AND PERMITS	7-16
	CONTAINMENT AND DRAINAGE PLAN	7-16
TRAINING AND DRILLS PROCEDURES **33 CFR 154.1050 AND 1055**	**SELF-INSPECTION, TRAINING, AND MEETING LOGS** 40 CFR 112.20(h)(8)	CHP 8
TRAINING AND DRILL PROCEDURES	SELF-INSPECTION CHECKLISTS AND RECORDS (Tanks, Secondary Containment, and Response Equipment)	8-A-2
TRAINING AND DRILL PROCEDURES	TRAINING EXERCISES AND MOCK ALERT DRILLS (Description and Record)	8-B-1
TRAINING AND DRILL PROCEDURES	DISCHARGE PREVENTION MEETING LOGS	8-D-1
DIAGRAMS	**DIAGRAMS (PLAN VIEW)** 40 CFR 112.20(h)(9)	CHP 9
SITE DIAGRAMS	SITE DIAGRAM	6-4
	SITE DRAINAGE DIAGRAM	9-1
	SITE EVACUATION DIAGRAM	9-1

	SITE SECURITY 40 CFR 112.20(h)(10)	
FACILITY SPECIFIC INFORMATION APPENDIX	EMERGENCY CUT-OFFS	10-1
FACILITY SPECIFIC INFORMATION APPENDIX	VALVE AND PUMP LOCKS	10-1
PLAN SUBMISSION, REVIEW AND UPDATE PROCEDURES 33 CFR 154.1060	PLAN SUBMISSION, REVIEW AND UPDATE PROCEDURES	CHP 11
ACRONYMS AND DEFINITIONS	ACRONYMS AND DEFINITIONS	A-1
	GENERAL SECURITY (Fencing, Guards, Lighting)	10-1

APPENDIX G:

RSPA RESPONSE PLAN FOR ONSHORE OIL PIPELINES (49 CFR 194) CROSS-REFERENCED TO EPA PLAN (40 CFR 112)

RSPA RESPONSE PLANS FOR ONSHORE OIL PIPELINES	EPA NON-TRANSPORTATION-RELATED FACILITY RESPONSE PLAN CONTENTS	
	SECTION	PAGE
OPERATORS REQUIRED TO SUBMIT A PLAN **49 CFR 194.101**	**WHO MUST PREPARE A FRP**	CHP 1
IMMEDIATE COMMUNICATION PROCEDURES	**EMERGENCY RESPONSE ACTION PLAN** 40 CFR 112.20(h)(1)	12-1
QUALIFIED INDIVIDUAL	EMERGENCY RESPONSE COORDINATOR (Name and Phone Number)	2-A-1 3-C-1
IMMEDIATE NOTIFICATION PROCEDURES	EMERGENCY NOTIFICATION PHONE LIST(S) (Names and Phone Numbers of Federal Officials, Facility Responders, Company Responders, and Contracted Responders)	3-C-1
IMMEDIATE NOTIFICATION PROCEDURES	SPILL RESPONSE NOTIFICATION FORM	3-A-1
EQUIPMENT LISTS AND RECORDS	FACILITY EQUIPMENT LIST (with Locations)	3-E-1
	FACILITY RESPONSE TEAM (Duties, Response Times, and Qualifications)	3-F-1
	EVACUATION PLAN(S) (Facility and Community; Condensed)	3-7
	EVACUATION ROUTES DIAGRAM	3-7 9-1
IMMEDIATE ACTIONS	IMMEDIATE ACTIONS (Condensed)	3-A-1
	FACILITY DIAGRAM(S)	9-1
INFORMATION SUMMARY **49 CFR 194.113**	**FACILITY INFORMATION** 40 CFR 112.20(h)(2)	CHP 2 2-1
FACILITY AND PLAN INFORMATION	FACILITY NAME, LOCATION, PHONE (Physical Address with Street Address, City or Directions from Nearest City, Borough, and Phone Number)	2-A-1
	LATITUDE AND LONGITUDE	2-A-1
SENSITIVE AREAS	WELLHEAD PROTECTION AREA (if appropriate)	2-A-1
	OWNER NAME AND ADDRESS (and Operator if different)	2-B-1
QUALIFIED INDIVIDUAL	EMERGENCY RESPONSE COORDINATOR(S) (Name, Position, Address, Emergency Phone Number, and Training)	2-A-1
	YEAR OF OIL STORAGE START-UP	2-A-1
	CURRENT OPERATION (SIC and Brief Description of Operations)	2-A-1
	DATES AND TYPE OF SUBSTANTIAL EXPANSION	2-A-1

EMERGENCY RESPONSE ACTION PLAN	EMERGENCY RESPONSE INFORMATION 40 CFR 112.20(h)(3)	CHP 3 3-A-1
CONTACTS AND EQUIPMENT LISTS	WORST-CASE-RESPONSE PERSONNEL AND EQUIPMENT LISTS (Facility, Company, and Contracted Personnel and Equipment, including Description, Location, Operational Status, Testing Information, Capacities, Recoveries, and Limitations)	3-G-1 3-H-1 3-H-2 3-I-1
EVIDENCE OF AVAILABILITY	EVIDENCE OF AVAILABILITY (Contracts or Other Approved Means)	3-6
NOTIFICATION PROCEDURES	EMERGENCY NOTIFICATION PHONE LIST(S) (Names and Phone Numbers of Federal Officials, Facility Responders, Company Responders, and Contracted Responders)	3-C-1
NOTIFICATION PROCEDURES	SPILL RESPONSE NOTIFICATION FORM	3-B-1
EQUIPMENT LISTS AND RECORDS	FACILITY, COMPANY, AND CONTRACTED RESPONDERS (Duties, Response Times, and Qualifications)	3-E - 3-J
EQUIPMENT LISTS AND RECORDS	FACILITY EQUIPMENT LIST (with Locations and Testing Information)	3-E-1
	EVACUATION PLAN(S) (Facility and Community)	3-7
	EVACUATION ROUTES DIAGRAM	3-7 9-1
QUALIFIED INDIVIDUAL RESPONSIBILITIES	DUTIES OF EMERGENCY RESPONSE COORDINATOR (Alert All Facility Personnel, Notify Responders, Characterize Discharge, Notify Authorities, Assess Hazards, Assess and Implement Removal, Coordinate Response, Obtain Monies, and Direct Initial Cleanup)	3-J-1
RESPONSE EQUIPMENT	DETERMINATION OF REQUIRED RESPONSE RESOURCES	7-1- 7-14
HAZARD EVALUATION (RESERVED)	**HAZARD EVALUATION** 40 CFR 112.20(h)(4)	CHP 4
	DISCHARGE HISTORY	4-7
SENSITIVE AREAS	POTENTIAL DISCHARGES (Locations and Potential Environmental Effects)	4-10
	TANKS AND SURFACE IMPOUNDMENTS (with Labeled Schematic)	4-9
	TRANSFERS TO/FROM TRANSPORTATION VEHICLES AND VESSELS (Operational Description and Typical Volumes)	4-10
	DAY-TO-DAY OPERATIONS (Description of Operations Capable of Causing Discharges and Typical Volumes)	4-10
	SECONDARY CONTAINMENT VOLUMES	4-10
	NORMAL DAILY THROUGHPUT	4-10
SENSITIVE AREAS	VULNERABILITY ANALYSIS (Calculation of Planning Distance using Attachment C-III and Potential Effects on Human Health, Property, and the Environment)	4-12
	ANALYSIS OF POTENTIAL DISCHARGES (Quantitative)	4-12

SPILL SCENARIOS (RESERVED)	**DISCHARGE SCENARIOS** 40 CFR 112.20(h)(5)	CHP 5
WORST CASE DISCHARGE 49 CFR 194.105	WORST-CASE DISCHARGE SCENARIO (with Volume Calculation from Appendix E)	5-4
AVERAGE MOST PROBABLE DISCHARGE	SMALL DISCHARGE SCENARIO	5-4
MAXIMUM MOST PROBABLE DISCHARGE	MEDIUM DISCHARGE SCENARIO	6-1
SPILL DETECTION **49 CFR 194.107**	**DISCHARGE DETECTION SYSTEMS** 40 CFR 112.20(h)(6)	CHP 6
	DETECTION BY PERSONNEL (Procedures, Personnel, and Inspections)	6-1
	AUTOMATED DISCHARGE DETECTION EQUIPMENT	6-4
FACILITIES SPILL MITIGATION PROCEDURES **49 CFR 194.115**	**PLAN IMPLEMENTATION** 40 CFR 112.20(h)(7)	CHP 7
FACILITY'S RESPONSE ACTIVITIES	IMPLEMENTATION OF RESPONSE ACTIONS	
RESPONSE EQUIPMENT	RESPONSE EQUIPMENT USED IN EACH SCENARIO	9-1
DISPOSAL PLAN	DISPOSAL PLAN AND PERMITS	7-16
	CONTAINMENT AND DRAINAGE PLAN	7-16
TRAINING AND DRILLS PROCEDURES **49 CFR 194.117**	**SELF-INSPECTION, TRAINING, AND MEETING LOGS** 40 CFR 112.20(h)(8)	CHP 8
TRAINING AND DRILL PROCEDURES	SELF-INSPECTION CHECKLISTS AND RECORDS (Tanks, Secondary Containment, and Response Equipment)	8-A-2
TRAINING AND DRILL PROCEDURES	TRAINING EXERCISES AND MOCK ALERT DRILLS (Description and Record)	8-B-1
TRAINING AND DRILL PROCEDURES	DISCHARGE PREVENTION MEETING LOGS	8-D-1
DIAGRAMS	**DIAGRAMS (PLAN VIEW)** 40 CFR 112.20(h)(9)	CHP 9
SITE DIAGRAMS	SITE DIAGRAM	9-1
	SITE DRAINAGE DIAGRAM	9-1
	SITE EVACUATION DIAGRAM	9-1
	SITE SECURITY 40 CFR 112.20(h)(10)	
FACILITY SPECIFIC INFORMATION APPENDIX	EMERGENCY CUT-OFFS	10-1
FACILITY SPECIFIC INFORMATION APPENDIX	VALVE AND PUMP LOCKS	10-1
PLAN SUBMISSION, REVIEW AND UPDATE PROCEDURES	PLAN SUBMISSION, REVIEW AND UPDATE PROCEDURES	CHP 11
ACRONYMS AND DEFINITIONS	ACRONYMS AND DEFINITIONS	A-1
	GENERAL SECURITY (Fencing, Guards, Lighting)	10-1

APPENDIX H:

RSPA RESPONSE PLAN FOR SHIPMENTS OF OIL IN BULK PACKAGINGS (49 CFR 171) CROSS-REFERENCED TO EPA PLAN (40 CFR 112)

RSPA RESPONSE PLANS FOR BULK OIL SHIPMENTS	EPA NON-TRANSPORTATION-RELATED FACILITY RESPONSE PLAN CONTENTS	
	SECTION	PAGE
OPERATORS REQUIRED TO SUBMIT A PLAN	**WHO MUST PREPARE A FRP**	CHP 1
IMMEDIATE COMMUNICATION PROCEDURES	**EMERGENCY RESPONSE ACTION PLAN** 40 CFR 112.20(h)(1)	12-1
QUALIFIED INDIVIDUAL	EMERGENCY RESPONSE COORDINATOR (Name and Phone Number)	2-A-1 3-C-1
IMMEDIATE NOTIFICATION PROCEDURES	EMERGENCY NOTIFICATION PHONE LIST(S) (Names and Phone Numbers of Federal Officials, Facility Responders, Company Responders, and Contracted Responders)	3-C-1
IMMEDIATE NOTIFICATION PROCEDURES	SPILL RESPONSE NOTIFICATION FORM	3-B-1
EQUIPMENT LISTS AND RECORDS	FACILITY EQUIPMENT LIST (with Locations)	3-E-1
	FACILITY RESPONSE TEAM (Duties, Response Times, and Qualifications)	3-F-1
	EVACUATION PLAN(S) (Facility and Community; Condensed)	3-7
	EVACUATION ROUTES DIAGRAM	3-7 9-1
IMMEDIATE ACTIONS	IMMEDIATE ACTIONS (Condensed)	3-A-1
	FACILITY DIAGRAM(S)	9-1
INFORMATION SUMMARY	**FACILITY INFORMATION** 40 CFR 112.20(h)(2)	CHP 2 2-1
FACILITY AND PLAN INFORMATION	FACILITY NAME, LOCATION, PHONE (Physical Address with Street Address, City or Directions from Nearest City, Borough, and Phone Number)	2-A-1
	LATITUDE AND LONGITUDE	2-A-1
SENSITIVE AREAS	WELLHEAD PROTECTION AREA (if appropriate)	2-A-1
	OWNER NAME AND ADDRESS (and Operator if different)	2-A-1
QUALIFIED INDIVIDUAL	EMERGENCY RESPONSE COORDINATOR(S) (Name, Position, Address, Emergency Phone Number, and Training)	2-A-1
	YEAR OF OIL STORAGE START-UP	2-A-1
	CURRENT OPERATION (SIC and Brief Description of Operations)	2-A-1
	DATES AND TYPE OF SUBSTANTIAL EXPANSION	2-A-1

EMERGENCY RESPONSE ACTION PLAN	EMERGENCY RESPONSE INFORMATION 40 CFR 112.20(h)(3)	CHP 3 3-A-1
CONTACTS AND EQUIPMENT LISTS	WORST-CASE-RESPONSE PERSONNEL AND EQUIPMENT LISTS (Facility, Company, and Contracted Personnel and Equipment, including Description, Location, Operational Status, Testing Information, Capacities, Recoveries, and Limitations)	3-G-1 3-H-1 3-H-2 3-I-1
EVIDENCE OF AVAILABILITY	EVIDENCE OF AVAILABILITY (Contracts or Other Approved Means)	3-6
NOTIFICATION PROCEDURES	EMERGENCY NOTIFICATION PHONE LIST(S) (Names and Phone Numbers of Federal Officials, Facility Responders, Company Responders, and Contracted Responders)	3-C-1
NOTIFICATION PROCEDURES	SPILL RESPONSE NOTIFICATION FORM	3-B-1
EQUIPMENT LISTS AND RECORDS	FACILITY, COMPANY, AND CONTRACTED RESPONDERS (Duties, Response Times, and Qualifications)	3-E - 3-J
EQUIPMENT LISTS AND RECORDS	FACILITY EQUIPMENT LIST (with Locations and Testing Information)	3-E-1
	EVACUATION PLAN(S) (Facility and Community)	3-7
	EVACUATION ROUTES DIAGRAM	3-7 9-1
QUALIFIED INDIVIDUAL RESPONSIBILITIES	DUTIES OF EMERGENCY RESPONSE COORDINATOR (Alert All Facility Personnel, Notify Responders, Characterize Discharge, Notify Authorities, Assess Hazards, Assess and Implement Removal, Coordinate Response, Obtain Monies, and Direct Initial Cleanup)	3-J-1
RESPONSE EQUIPMENT	DETERMINATION OF REQUIRED RESPONSE RESOURCES	7-1- 7-14
HAZARD EVALUATION (RESERVED)	**HAZARD EVALUATION** 40 CFR 112.20(h)(4)	CHP 4
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	TANKS AND SURFACE IMPOUNDMENTS (with Labeled Schematic)	4-9
	TRANSFERS TO/FROM TRANSPORTATION VEHICLES AND VESSELS (Operational Description and Typical Volumes)	4-10
	DAY-TO-DAY OPERATIONS (Description of Operations Capable of Causing Discharges and Typical Volumes)	4-10
	SECONDARY CONTAINMENT VOLUMES	4-10
	NORMAL DAILY THROUGHPUT	4-10
SENSITIVE AREAS	VULNERABILITY ANALYSIS (Calculation of Planning Distance using Attachment C-III and Potential Effects on Human Health, Property, and the Environment)	4-12
	ANALYSIS OF POTENTIAL DISCHARGES (Quantitative)	4-12

SPILL SCENARIOS (RESERVED)	**DISCHARGE SCENARIOS** 40 CFR 112.20(h)(5)	CHP 5
WORST CASE DISCHARGE	WORST-CASE DISCHARGE SCENARIO (with Volume Calculation from Appendix E)	5-3
AVERAGE MOST PROBABLE DISCHARGE	SMALL DISCHARGE SCENARIO	5-4
MAXIMUM MOST PROBABLE DISCHARGE	MEDIUM DISCHARGE SCENARIO	5-4
SPILL DETECTION	**DISCHARGE DETECTION SYSTEMS** 40 CFR 112.20(h)(6)	CHP 6
	DETECTION BY PERSONNEL (Procedures, Personnel, and Inspections)	6-1
	AUTOMATED DISCHARGE DETECTION EQUIPMENT	6-4
FACILITIES SPILL MITIGATION PROCEDURES	**PLAN IMPLEMENTATION** 40 CFR 112.20(h)(7)	CHP 7
FACILITY'S RESPONSE ACTIVITIES	IMPLEMENTATION OF RESPONSE ACTIONS	
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TRAINING AND DRILL PROCEDURES	SELF-INSPECTION CHECKLISTS AND RECORDS (Tanks, Secondary Containment, and Response Equipment)	8-A-2
TRAINING AND DRILL PROCEDURES	TRAINING EXERCISES AND MOCK ALERT DRILLS (Description and Record)	8-B-1
TRAINING AND DRILL PROCEDURES	DISCHARGE PREVENTION MEETING LOGS	8-D-1
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	SITE EVACUATION DIAGRAM	9-1
	SITE SECURITY 40 CFR 112.20(h)(10)	
FACILITY SPECIFIC INFORMATION APPENDIX	EMERGENCY CUT-OFFS	10-1
FACILITY SPECIFIC INFORMATION APPENDIX	VALVE AND PUMP LOCKS	10-1
PLAN SUBMISSION, REVIEW AND UPDATE PROCEDURES	PLAN SUBMISSION, REVIEW AND UPDATE PROCEDURES	CHP 11
ACRONYMS AND DEFINITIONS	ACRONYMS AND DEFINITIONS	A-1
	GENERAL SECURITY (Fencing, Guards, Lighting)	10-1

APPENDIX I: CHECKLIST FOR FACILITY RESPONSE PLAN

Check to ensure the contingency plan contains the following:

		REFERENCE SECTION	COMPLETED Y/N
1.	Is the plan written in English	chp 1	_____
1a.	Certification of Substantial Harm Determination	1-A-1	_____
2.	Facility Information/OPA Form	2-A-1	_____
3.	Owner/host Information Form	2-B-1	_____
4.	Emergency Response Information Form	3-A-1	_____
5.	Spill Response Notification Form	3-B-1	_____
6.	Emergency Notification Phone List	3-C-1	_____
7.	Generic Oil Spill Message Form	3-D-1	_____
8.	Facility Equipment List	3-E-1	_____
9.	Emergency Response Team	3-F-1	_____
10.	Facility Personnel List	3-G-1	_____
11.	Contractor/Cooperative Resource List	3-I-1	_____
12.	Other Navy/Government Resource List	3-H-4	_____
13.	Qualified Individual Letter of Designation	3-K-1	_____
14.	Alternate Qualified Individual Letter of Designation	3-K-3	_____
15.	Facility Evacuation Plan	3-7	_____
16.	Facility Evacuation Diagram	3-7	_____
17.	Community Evacuation Plan and Diagram	3-8	_____
18.	List of Environmentally Sensitive Areas (ESAs)	4-2	_____
19.	Hazard Identification	4-3	_____
20.	Facility Spill History Summary Sheet/Log	4-4	_____
21.	Document the Location of Tanks and Surface Impoundments	4-5	_____
22.	Hazard Identification Schematic Drawing	4-10	_____
23.	Description of Facility Operations	4-11	_____
24.	Vulnerability Analysis	4-12	_____
25.	Vulnerability Zones Determined	4-12	_____
26.	Vulnerability Sites and Receptors Determined	4-12	_____
27.	Risk Analysis	4-13	_____
28.	Probable Level of Harm Matrix	4-13	_____
29.	Worst case Discharge Scenario	5-1	_____
30.	Medium and Small Discharge Scenarios	5-C-1	_____
31.	Worst Case Discharge Volume Calculated	5-2	_____

32.	Medium Discharge Volume Calculated	5-3	_____
33.	Small Discharge Volume Calculated	5-3	_____
34.	Selection of Appropriate Discharge Planning Quantities	5-2	_____
35.	Worst Case Discharge Volume Calculated for Marine Transportation Facilities	5-3	_____
36.	Maximum Most Probable Discharge Volume Calculated	5-4	_____
37.	Average Most Probable Discharge Volume Calculated	5-4	_____
38.	Discharge Detection Description	6-1	_____
39.	Discharge Detection Testing Procedures	6-1	_____
40.	Discharge Detection Inspection Description	6-2	_____
41.	Plan Implementation/Description of Facilities Spill Mitigation Procedures/Procedure for Personnel to Mitigate or Prevent Discharges	7-1	_____
42.	Equipment Needs and Response Times for Small Discharges (1000 feet of containment boom within 1 hour and Oil Spill Recovery Devices within 2 hours)	7-2	_____
43.	Equipment's Effective Daily Recovery Rate Calculated	7-14	_____
44.	Oil Storage Identified for Small Spill	7-2	_____
45.	Recovery Devices For Medium Discharges Located to Arrive on Scene by Tiered Response Times	7-2	_____
46.	Equipment's Effective Daily Recovery Rate Calculated	7-14	_____
47.	Oil Storage Identified for Medium Spill Equal to Twice the Daily Recovery Rate	7-2	_____
48.	Sufficient Boom Available Immediately to Protect ESAs	7-2	_____
49.	Response Resources for Worst Case Discharge Calculated	7-3	
	- Non-Transportation		_____
	- Marine Transfer Related		_____
50.	Recovery Devices for Worst Case Discharges Located to Arrive on Scene by Tiered Response Times	7-8	_____
51.	Equipment's Effective Daily Recovery Rate Calculated	7-14	_____
52.	Oil Storage for Worst Case Discharge Identified Equal to Twice the Daily Recovery Rate	7-14	_____
53.	Containment and Drainage Plan: Description and Diagrams	7-14	_____
54.	Disposal Plan	7-16	_____
55.	Tank/Surface Impoundment Log	8-A-1	_____
56.	Visual Tank Inspection Form	8-A-2	_____

57.	Mock Alert Drills Description	8-3	_____
58.	Response Training Plan	8-4	_____
59.	Response Training Log	8-C-1	_____
60.	Employee Training Log	8-C-2	_____
61.	Discharge Prevention Meeting Schedules	8-8	_____
62.	Site Plan Diagram	9-1	_____
63.	Site Drainage Plan Diagram	9-1	_____
64.	Description of Security Provisions to Prevent an Oil Spill	10-1	_____
65.	Determine Which Agencies Require a Plan Submittal	11-1	_____
66.	Plan Review and Update Procedure	11-1	_____
67.	Emergency Response Action Plan Compiled	12-1	_____
68.	FRP Assembled and Submitted	13-1	_____

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